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HYGEIA

The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

January, 1933

American Quackery

Athletics

25 Cents

Indigestion

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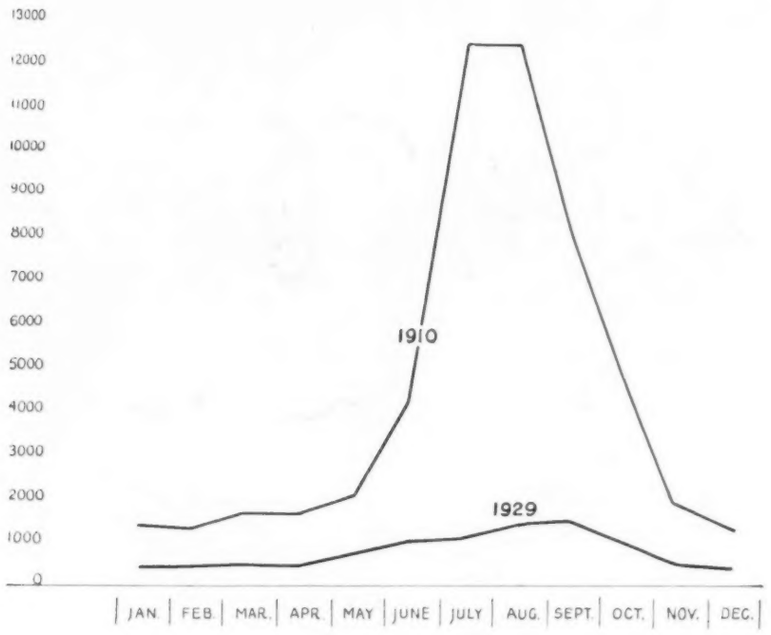

Mortality by months from Diarrhea in infancy (under 2 years of age) for 1929 as compared with 1910, in United States Birth Registration Area. Figures from Bureau of Census Mortality Statistics. (1929 curve adjusted for population increase.)

THE great decrease in mortality from diarrhea in infancy is one of the encouraging results of concerted effort by public health services, private agencies, physicians and parents.

By keeping your baby under competent medical supervision, you are helping to maintain the high health standards of your community.

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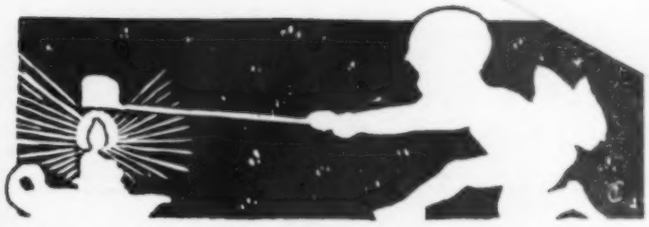

THE HEALTH MAGAZINE

Published by the American Medical Association » » » Edited by Morris Fishbein, M.D.

Volume 11 JANUARY, 1933 Number 1

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● Dr. Royal S. Haynes, New York City, discusses posture as an important element in the development of the preschool child. . . . Juliet Hartman of Nashville, Tenn., states the case for fairy tales in their relation to the mental health of the child.

● Merriel Abbott, the originator of the dance, "Jumping Jack," is head of the Merriel Abbott School of Dancing, Chicago. . . . Elizabeth Jenkins of Evanston, Ill., tells a true story about "The Little Old Lady Who Walks Round the Block."

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January, 1933

EDITORIAL

The Costs of Medical Care

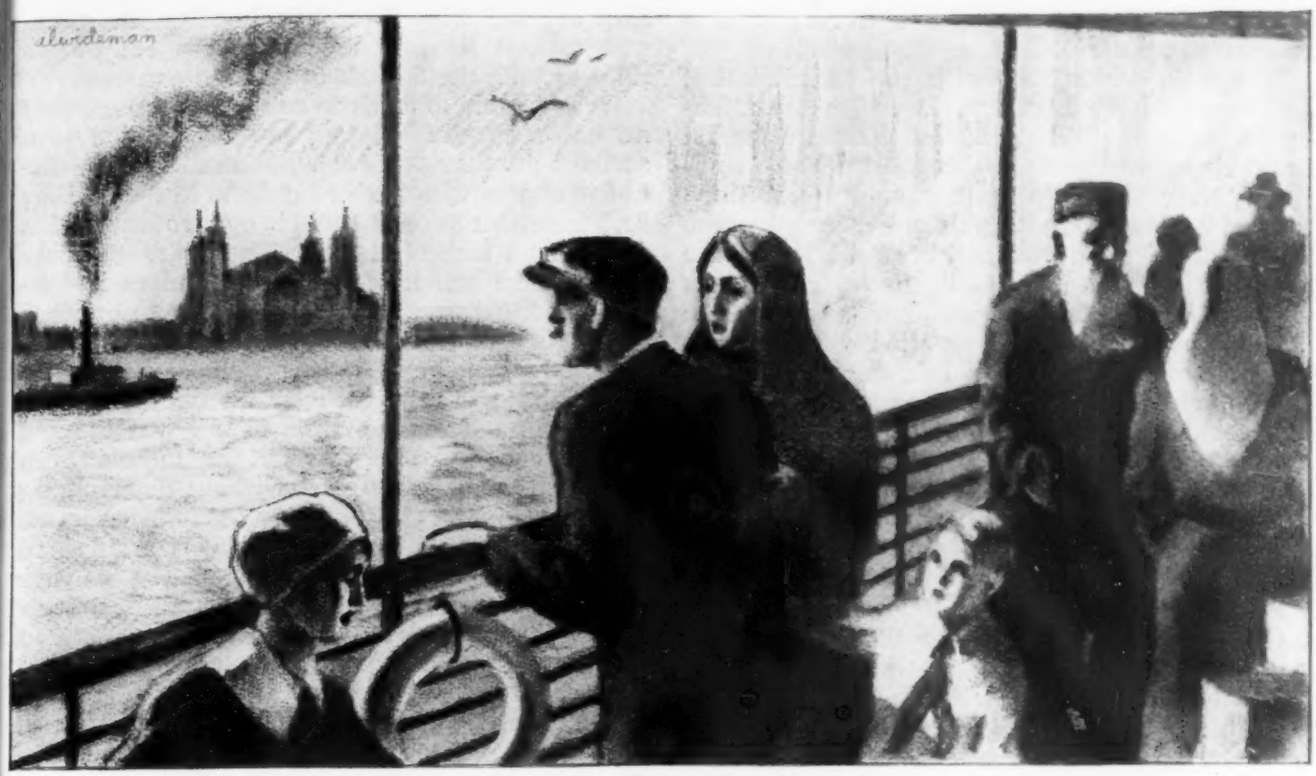
AFTER five years of repeated meetings and after the publication of almost thirty studies of conditions related to the costs of medical care, a national committee has just published its final report. In that report it has recommended that medical service of all types be furnished largely by organized groups of doctors centered preferably around a hospital and that these doctors be paid by some system of group payment through the use of insurance or taxation or both. The majority of the committee also recommended the extension of basic public health services, continued study of the economics of medical service, and changes in the nature of medical education leading toward more preventive medicine.

AT THE SAME time a minority report was presented by leading physicians on the committee. These physicians object to the medical center plan because it contains evils which might be worse than the evils it is supposed to alleviate. They have seen, in communities where such centers have been established, competition leading to underbidding and skimping of medical service or else a medical dictatorship in which the rights of the patient are not likely to be respected. They feel that the continuous personal relationship of physician and patient which is necessary for the best type of medical practice would not be possible under such conditions. Actually the minority group charges that the majority was biased through studying only the favorable aspects of group practice and that any attempt to put all medical practice on such a basis would actually multiply costs greatly without increasing efficiency.

INVESTIGATIONS that have been made by the Commission on Medical Education show that more than 85 per cent of all the illness that afflicts mankind can be satisfactorily and most economically diagnosed and treated by a good general practitioner with the amount of equipment that he can carry in a handbag. Moreover, almost half of the practice of a physician is carried on in his office, about 35 per cent in the patients' homes and about 15 per cent in the hospitals. There would seem to be no necessity for more extensive hospitalization, and an attempt to take care of disease through groups would tend to multiply costs rather than to decrease them. The minority report recommends that government competition in the practice of medicine be discontinued and that its activities be restricted to certain special services. Their primary recommendation, which naturally follows from the facts here mentioned, is that united attempts be made to restore the general practitioners to the central place in medical practice. The minority group and the physicians of this country in agreement therewith feel that methods which would change the nature of medical practice may be given careful trial if they can be rightly fitted into our present systems.

THE MAJORITY report of this committee on the costs of medical care is probably an outgrowth of that period of inflation which followed the World War and which was marked by excessive respect for efficiency systems, mass methods of manufacture, belief in the great god "organization" and disregard for the individual. It seems likely that our present epoch of deflation will result in increased respect for the rights of the human being as such and a tendency to get away from any system of standardization that would try to fit all human beings into one category. The physicians of this country know that no two human beings are exactly alike and that when they are treated they must not be considered merely ailing human beings but also ailing human souls. They feel that the patient's person is more likely to receive proper consideration when he is responsible to his own doctor for the care that is given him and when his own doctor is responsible to him for the outcome of his illness. This is the platform on which the organized medical profession of this country is standing today. The services rendered by individual doctors in the aggregate constitute the great bulk of medical service. Quality is far more important in medical service than any other factor. For some thousands of years the medical profession has gained repute as the most ethical and altruistic profession of any that serves mankind. This record entitles it to consideration in any plan for changing its nature.

ALREADY many leading newspapers of this country have expressed themselves in opposition to the scheme of socialization that has been proposed by the majority report of the Committee on the Costs of Medical Care. Indeed this opposition is so definite and the response of the newspapers represents so certainly what may be expected as the response of the people that the majority report will probably pass like the Wickersham report into innocuous desuetude.



America's Front Door

An Intimate Glimpse of Ellis Island

By M. GERTRUDE SLAUGHTER

BEFORE I was assigned there, I had "notions" about it, too. Everything I had ever read about Ellis Island left with me the popular impression that it was a place of horror, where favoritism, undue discrimination and unkindness formed the rule of treatment which met the immigrant who sought to establish his home in America.

Courtesy, Kindness and Consideration

Then I was assigned to the Island as an examining physician. I approached my task with considerable misgiving, feeling that I had become part of the crushing mechanism. I soon learned, however, that although I was one of the watchdogs at the gate, I was expected to show as much kindness and consideration as possible, consistent with the rapid inspection required to let healthy potential citizens enter. Not only were they always treated with courtesy, but I was frequently witness to the fact that the employees were the recipients of abuse rather than the guests.

Ellis Island is in reality three distinct islands. The first serves as a place of reception. On it is what one might call a large hotel. Here the entrants receive their physical and social examinations. If, owing to some disability or social handicap, they cannot be passed into the States on the day of disembarkation, they are housed in this hotel until their difficulties have been adjusted. Here the rooms and dormitories are kept immaculately clean, and the food served is well cooked and wholesome. Care is given this detail even to the point of serving kosher food to Jewish immigrants. Incomers are sometimes kept on this island for months to await a decision on their suitability to enter. These persons are, of course, given the more comfortable rooms, while those who stay only overnight use the dormitory. To accommodate children there is a school and a playground. Interpreters of every language are employed to smooth out difficulties of misunderstanding.

Trials and Tribulations of the Interpreter

On the second island is a hospital in which patients who are ill can be cared for until they are well enough to have a decision given in their case. If their physical incapacity is the only obstacle, they are admitted on recovery.

The third island contains a library and a recreation room.

It was in connection with the hospital that I saw one of the instances in which the attendants were the recipients of blows. Scarlet fever had developed in the child of an immigrant after the ship had passed quarantine. The parents were well and were directed to the first island, while the orderlies came with a stretcher to take the child to the contagious ward. Immediately the mother attacked the attendants, beating and scratching them, and then tried to throw herself into the bay because she thought her child was being taken from her forever. Another attendant then had to hold the mother gently but firmly until an interpreter could be found who spoke her language; he explained the situation thoroughly, and peace was restored.

Inspection of Immigrants

On July 1, the ships maneuver for position to cross the imaginary line at the Narrows and enter the harbor to New York. After passing quarantine the passengers disembark in the order of arrival of these ships, the immigrants being transferred to boats taking them to Ellis Island. Here they file into the principal building in double lines. Three physicians standing about 10 feet apart give them a cursory inspection, the first two noting and marking any physical defect, the third doctor inspecting the eyes for trachoma. Training and practice make these men proficient, and it is needless to say that no serious defect escapes them. If anything abnormal is noted, the person is marked and files to the right where those who are so classified enter rooms and strip to the waist for a more intensive examination. The men are examined by men doctors, and women and small children by women doctors, so there can never be cause for offense or criticism. If serious defects are found which might make the newcomers a burden to this country within five years, two other physicians must examine and sign the certificate before deportation is considered. Senility and pregnancy require the signature of only one physician. Then if some one signs to take the responsibility and care of these immigrants, they are permitted to enter at once. Others become guests of the hotel until their cases can be decided on by the Island judge, interpreters being provided to obviate any possible misunderstanding as to the fairness of the proceedings. Now begin many hardships.

Each country, of course, is allowed a certain quota of emigrants each year. It was commonly thought that this quota was checked before these people left their country, but it was soon learned that this was not the case. Each steamship company loaded its steerage quarters to capacity and raced with its rivals to unload its human cargo at the American shore. If the ship arrived with these people after the quota was full, it became the steamship company's duty to take them back at its own expense.

Immigration officials were required to see that no one was allowed to pass, beyond the prescribed number for each nationality. For the unfortunates who arrived only to find that they had to return at once to their own country, Ellis Island was indeed Hades. There was the case of a little English woman who had made the trip the third time in a vain attempt to join her husband who had been here two years and had established a home. On each occasion she found that she was just over the quota and had to return. Of course, Ellis Island was blamed for this outrage. But why did the authorities in England ever let her start without determining whether the quota was full?

A greatly magnified tragedy was a shipload of 500 immigrants from southeastern Europe who had disposed of their homes and all their possessions to start life anew on American shores, only to find that they were above the quota and were forced to return. The ensuing demonstration of these excitable people is one of my most painful reminiscences of service at the Island. They screamed and bawled and beat about like wild animals, breaking the waiting-room furniture and attacking the attendants, several of whom were severely hurt. It was a pitiful spectacle, but officials were helpless to aid. Again it may be asked why they were permitted to leave their native port without a determination of the quota. Again, however, the Island was culpable in the eyes of those who were blind to facts. Still the officials were forced to do their duty.

Another group arrived coming from Syria, Armenia and India. A great number of these immigrants were afflicted with trachoma, a contagious disease of the eye, leading to blindness Of course, these unfortunates had to be deported, and their ensuing mental agony was unbearable even to those of us who had witnessed so much misery of this sort.

Dangerous Dealings

One little personal experience arose from the necessity of examining the peasant women of Europe for inguinal hernia. These poor creatures take the place of drudge horses in their own country, and in an amazing number of them rupture develops. This is listed as a serious physical defect, and they may not enter unless a responsible person assumes charge of them. I was obliged to tell a former plowgirl that she had to be detained until her case could be adjudged. Her fists were large, and I wear glasses. I did a back slide off my stool and missed a knockout by a hair. The attendants led her away howling like a maniac.

Often the situation was ludicrous. Every physician must learn to say "What is your

name?" and "What is your age?" in twenty-two languages, so that deaf mutes may not pass. I had been examining a boat-load of Polish people all day. The phonetic equivalent of "What is your name?" in Polish is "Yak she nazh ee wash?" A girl about 12 years of age stepped up. "Yak she nazh ee wash?" I asked her. No reply. Patiently I asked it again. Still no answer. I raised my voice and tried to look stern as I quoted once more, *"Yak she nazh ee wash?"* Her eyes grew big with wonder.

"Y-Yes ma'am," she stammered, "I-I've been vaccinated!" It happened that she and her mother were the only English people in this contingent.

It was our custom to sit in the entrance hall and watch the line of passengers file past the preliminary medical inspectors until a sufficient number had been segregated to begin intensive work. Although most foreigners come dressed in the commonplace garb to which we in this country are accustomed, occasionally groups would arrive clothed in the provincial costumes of their native land. This was a colorful relief from the drab monotony of the usual ensemble. One woman arrived wearing seventeen petticoats. On my amazed inquiry she explained that in her province a woman's wealth was established by the number of skirts she could wear. I immediately concluded that this woman must have been the local Mrs. Croesus.

The crystallization of a dream—a gate swung wide to welcome them to a new home in a new country.

One day I rubbed my eyes at an unexpected appearance among the influx, for there came a royal parade of Russian princes in full regalia. They were handsome stately individuals, accompanied by charming princesses in evening dress incongruously covered with crude coats. Their inherent breeding was immediately apparent on their entering the inspection room, where it was my pleasure to examine the royal ladies. In excellent English they confided the dramatic facts of their escape. They had been attending a ball when they received sudden warning that their lives were in danger. Fleeing in the gala clothes which they wore at the time, they traveled for forty days, guided through byways until they reached the southern border and eventually Constantinople. Here they pawned some of their jewelry, and with the funds provided they bought steerage passage for America. Throughout all the hardship they had endured, they still remained poised and immaculately clean.

My curiosity led me to wish to observe how the Russian aristocrats would conduct themselves when they were thrown into intimate contact with the proletariat of their own country. In order to do this I forsook my dinner and went to the immigrants' mess room. I had seen this room before. Its floors were always clean, the long tables were scrubbed white, and the dishes were neatly in place. When I arrived this time there were stacks of bread and plates of butter, also great bowls of vegetables and meats on these tables. As I stood there, a bell rang and the doors to the dining room swung open. It seemed like a rush of hunger-crazed cattle, the way the majority of people stormed the table, greedily grabbing all the food in sight—even stuffing bread and meat into shawls and blouses to carry away with them. Those less aggressive were the losers in the contest, and among these were the Russian aristocrats. They stood back, an expression of nausea on their faces. The waiters had no control over this vulgar rush, and when they did attempt to take food away from those who had secreted it in their clothing, a real battle resulted.

There was no excuse but selfishness for such actions, for meals were served regularly, and food was plentiful. To immigrants of the better class passing through, this sort of thing is

extremely repulsive; but how can such crude and animalistic behavior be controlled with courtesy and kindness? We must continue to play the rôle of an indulgent host, regardless of the impolite actions of some of our less thoughtful guests.

It is not generally known that immigrants who become a public charge before they have been in this country five years are subject to deportation. If for any reason the ships can refuse passage to such individuals, or if no one can be found to whom to send them for care, they become guests of the Island; and sometimes they remain in this status for years. There was the case of a Chinaman in whom tuberculosis had developed and whose passage home was deemed undesirable by the ship companies. He was a patient at the Island hospital for at least four years, at no expense whatever to himself.

I shall always remember a beautiful young girl who had come here from Europe to meet her fiancé. When she arrived, she discovered that he had married another girl. In her intense grief she became mildly insane. She was in the hospital department of the Island three years, receiving the most kindly care and the best medical treatment possible.

So you see that to those who cooperate and comply with the regulations of law and order, Ellis Island becomes a place of genuine solicitude. To countless thousands it has opened the door to well being, happiness and a new chance.

My most lasting memory is of a reunited aged couple walking hand in hand. An ecstatic glow on their noble old faces bore witness to the crystallization of a long cherished dream—a gate swung wide to welcome them to a new home in a new country.

BRIEF HEALTHGRAMS ✣ from Articles in This Issue

¶The second century philosopher who advised against walnuts in the diet of the cancer patient had grounds as good as those of certain diet faddists today. *See page 50*

¶"Posture means not only the position in which the child holds himself and walks about, but also the effect which that position has on all the child's internal organs." *See page 61*

¶Three precautions can be taken to prevent foreign body accidents caused by safety-pins. 1. Never set a bad example to others, especially children, by putting safety-pins in the mouth. 2. Make a habit of closing all safety-pins before laying them down. 3. Keep pins out of the reach of children. *See page 46*

¶It is a dietary insult to offer crackers and milk to the child at 11 a. m. and 3 p. m. when the stomach still contains partially digested food. *See page 15*

¶To retain some semblance of its original purity and wholesomeness, milk must be drawn from healthy cows, under sanitary conditions. *See page 39*

¶Most men, less prepared physically and mentally than was Charles A. Lindbergh during and after his flight across the Atlantic, would have been unable to stand the ordeal that the "unknown aviator" was put through by the demonstration of gratitude shown by the peoples of four nations. *See page 17*

¶The placement for food service at the table should be as follows: The knives and spoons are placed to the right of the plate, starting at the outside with the one to be used first, then coming toward the plate with those next in order. The cutting side of the knife is toward the plate, and the bowl of the spoon is right side up. At the left of the plate are the forks, tines up, with the one to be used first on the outside. The napkin is placed at the left of the fork. The water glass stands at the tip of the knife. *See page 24*

¶"Tuscora rice" for consumption was the first American "patent medicine." It was introduced in 1711. *See page 27*

¶Since digestion is a process which converts food into such a form as to permit its ready absorption and assimilation by the body, indigestion may arise as a result of a disturbance in any part or organ associated with this process. *See page 33*

¶Each time when I had encountered what appeared to be a rousing good enemy of fairy tales and had warmed up in anticipation of the fray, almost invariably at an early date I heard, "But let me hasten to add," or "Understand me." *See page 56*

¶It was commonly thought that the quota of emigrants was checked at the port of embarkation, but it was soon learned that this was not the case. *See page 11*

¶In the evolution of life on the globe, Nature has had little regard for the individual, but she has been careful of the species. Man, however, is careful of the individual at the expense of the species. *See page 42*

DIET for Small Children

By

Miner C. Hill

Photo by Nichols

There is more to diet than merely the selection of food.

TOO OFTEN the word diet creates the impression of something unpleasant—doing without the foods one likes best. A discussion of the intelligent use of food for growing children may be helpful in solving a parental problem.

I believe that if mothers knew more about the composition of food—what each kind supplies to the body, what a vitamin really is and what calories mean—they could cooperate more fully with the physician in providing a good diet for their children.

A child in the years from 2 to 6 doubles his body weight. This means that he needs relatively more food than a grown person requires; the problem, therefore, is to supply that food in an easily digestible form, so balanced that it will satisfy the needs of all the organs.

Milk, eggs, meat and fish are called protein foods and are necessary for the growth of tissues.

Cereals, bread, potatoes and sugars are grouped together under the head of carbohydrates. They provide body heat and energy.

Fat is provided in cream and butter, and some is obtained from meat and a little from vegetables. Fats help the carbohydrates in supplying heat, and they aid in the absorption of the salts, which are so important to bone formation and necessary to the growth of nerve tissue. Proteins, fats and carbohydrates are basic foods, but a diet of these alone will not produce a healthy child. Vegetables and fruits are indispensable because they furnish salts, iron and vitamins.

In scientific language, vitamins mean necessary ammonia compounds. Popularly, they mean living principles that are necessary to health. They become more conspicuous when they are absent, as illustrated by a school boy's definition of salt: "Salt is the spice that spoils the potato when you don't put it on."

If these foods are combined in a practical way, enough of each and not too much of one kind, one has the proper diet for a child. Every food serves a good purpose. There is rarely anything wrong with the digestive organs in the beginning. Most of the troubles come from not using common sense in the choice of foods and in the habits of eating.

As to protein intake, a child needs meat, an egg, fish or chicken every day. From one to two heaping tablespoonfuls of any of these foods is

sufficient, according to the child's age and appetite. The proper amount of milk that a child from 2 to 6 needs is much under discussion today; some authorities maintain that too much milk spoils the appetite for other necessary food and that therefore the quantity should not exceed a pint a day.

The carbohydrates, which include cereals, bread, cake and sugar, supply heat and energy to those little creatures who seem all energy most of the time. They need more carbohydrate than is necessary for grown-ups; but because of the natural tendency of all human beings to like this part of the diet best, much discretion must be used in the provision of sweets. Twenty years ago, Dr. Saunders of St. Louis wrote: "White food makes white children." If a child is given too much starchy food, he is liable to become fat, flabby and white. A cup of cereal and one slice of bread at breakfast, two tablespoonfuls of potato and one slice of bread with the noon meal, and one slice of bread and a cookie with supper is enough for any child. Puddings and fruit supply a sufficient amount of sugar. Candy is not taboo, but the best time to give it is after a meal, if the child has eaten all his meat and vegetables.

I caution against the "bread and butter child," as there are many children who prefer these foods to all others. If the circumference of a child's abdomen is as large as the circumference of his chest, he is getting too much starchy food.

It is often necessary to limit the amount of meat and starchy food, but a child may safely have all the vegetables, salads and fruit that he wishes. It is a good plan to serve vegetables twice a day at luncheon and supper. To sum up, build the child's diet around meat, vegetables and fruit. He will get enough starchy food and sugar incidentally.

There is more to diet than merely the selection of food. One must consider how, when and where this food is to be served. Cooking is important. Meat should be broiled or roasted rather than fried. Cook vegetables in a small amount of water or steam them in order not to dissolve out the valuable mineral salts. If fruits are stewed, avoid heavy syrups.

Children are sensitive to their surroundings. Serve their meals in an attractive manner. Serve small helpings and give them the opportunity to ask for more. Large helpings look like too large a job to tackle; they spoil the appetite.

The table is not the place for discipline or for unpleasant conversation. Serve happiness, jokes and laughter with meals. They help both appetite and digestion. Every one knows that the most popular restaurant is the one with a cheerful atmosphere and that the witty man is the one chosen for an after-dinner speech.

Another point little considered by parents is digestive rest. It takes at least four hours to digest a meal. An interval of five hours between meals is desirable to allow complete digestion and a rest for the digestive organs. It is a dietary insult to offer crackers and milk at 11 a. m. and 3 p. m., when the stomach still contains partially digested food.

In training athletes or horses for tests of physical endurance, equal consideration is given to regulation of food, rest and exercise. Why not do as much for the runabout to prepare him for the long stretches ahead where health is so great a factor to a happy useful existence?

Do not forget the importance of water. Water is the rolling stock of the digestive transportation system. It carries food in a liquid form to all parts of the body and carries away the waste. To supply this fluid need, give the child five glasses of water a day, one before dressing, two between breakfast and dinner, and two between dinner and supper.

I have voiced no radical theories. I have suggested nothing difficult, but I hope I have convinced parents that an investment of a little effort in child welfare promises big dividends in health and happiness.

TRAINING FOR ATHLETICS AND HEALTH

By
Alfred E. Parker

Preface

BOYS of all ages, these chapters are written for you. They are aimed to help you build a healthy body, a sound mind and a noble character, all three of which are necessary to real manhood. They were inspired by my ten years of intimate association with boys as an instructor of physical education.

It has been my experience that you are mightily interested in health. If you have an underdeveloped body, this study will help you; if you are an athlete and want to know how to keep in training, it will help you; if you aspire to become an athlete, it will help you; but especially if you are one of the thousands of average American boys who are deeply concerned about building a healthy body, you should find in this material the road to health.

Every effort possible has been made to include the most modern methods of health. Medical science has developed so marvelously in the last fifteen years that you have a big advantage over boys who lived during the times of your father and grandfather. You should cherish this advantage and make the most of the opportunities for health now offered you, for if you do, in manhood you will have a foundation for building a big success.

And now for a confession. The inspiration for this study goes even further than my first work with boys as a physical director and athletic coach. It goes back to the day when I too was a boy, a mischievous, fun-seeking boy. Some one placed in my hands a book on the lives of great men. With difficulty I spared time from play to read it. To my surprise I found it thrilling. Why, these great men—presidents of the United States, presidents of railroads, authors, inventors and business men—had been mischievous boys themselves; but something within them had created a desire to build themselves into fine specimens of manhood, both physically and mentally. I found also that these great men did not find it easy to build a strong body and a clear-thinking mind. They had to put forth much effort. Since the day that book on the lives of great men was injected into my life, a hope started burning, burning within my mind.

Since that time I have tried to reach that goal. The way has not been easy; there have been slips, but there is usually a large amount of joy, the joy of health, for any given amount of effort.

I. Why Build a Healthy Body ?

BACK in 1902, on the fourth of February, an event occurred in Detroit which at the time excited little attention among the busy inhabitants of that city. The event, the birth of a boy, did of course arouse much excitement at the home of the parents.

Indeed, it was not until twenty-five years later that Detroiters awoke one morning to the fact that one of their babies born on a February day in 1902 had become famous. Soon after this baby's birth his parents moved to a farm on the west bank of the Mississippi river. On this farm the baby grew into a vigorous boy and here, by means of much outdoor activity, he built for himself a foundation of physical strength which later made it possible for him to stand a supreme test. Such a test came when one morning in 1927 he set forth alone to fly from New York City to Paris. There was no great flurry about this flight. One newspaper contained this slight notice: "A comparatively unknown aviator will attempt a flight from New York to Paris today."

Soon after this unknown aviator had left land behind, he found himself in a dense fog and he was compelled to send his plane up to 10,000 feet. Night came on. There was no moon; nevertheless he held to his course through the blackness. Later, the fog diminished and he could see the water below. Then he flew close to the ocean, sometimes as low as 10 feet above the waves, for here he found a cushion of air that made easier traveling for the plane. Hours later he sighted several fishing boats; it was a sign that he was approaching land.

Presently he was flying over southern England, and shortly after 10 p. m. he circled the Eiffel Tower in Paris, landing in a few minutes at Le Bourget flying field. Thousands of people swarmed around the plane. The unknown aviator tried to seek a hiding place, but he was carried on the shoulders of the enthusiastic throng for nearly an hour. Finally he managed

to escape to one of the hangars, where several minutes later he was being introduced to Myron T. Herrick, United States Ambassador to France. The unknown flier was Charles A. Lindbergh, the man who flew alone across the Atlantic.

Those who love to argue may contend that a much less healthy man might have been able to sit in the seat of a plane for thirty-three hours and thirty minutes, but few will contest the opinion that a less healthy man could not have shown the self control, the will-power, the courage, the exuberant health of splendid manhood that Charles A. Lindbergh displayed following his landing in Paris and during the subsequent ovations. Most men, less prepared physically and mentally, would have been unable to stand the ordeal that the "unknown aviator" was put through by the demonstration of gratitude shown by the peoples of four nations. Before Charles Lindbergh left France, the mails brought numerous offers, running into millions of dollars, intended for the purpose of capitalizing on his fame; but he would accept none of the offers. He thought only of the goal he had set for himself, which was to help in the advancement of the science of aviation.

In Charles A. Lindbergh you can indeed find an example of success, of health, of manhood well worth emulating. Here is a man who, even before he made his famous flight, had the following said of him by army officers who were examining him for promotion in the National Guard: "He is intelligent, industrious, energetic, dependable, purposeful, alert, quick of reaction, serious, deliberate, stable, efficient, frank, modest, congenial, a man of good moral habits." It is little wonder that soon after Lindbergh's return to America, Charles Evans Hughes said of him: "We are all better men and women because of this exhibition in the flight of our young friend. Our boys and girls have before them a stirring, inspiring vision of real manhood."

What an inspiration there is for you in the life story of Lindbergh! Always it is true that the lives of men who achieve create inspiration, lift you up and make you determine that you, too, will strive for a similar type of manhood. You have your heroes. They may be Charles Lindbergh, George Washington, Abraham Lincoln, Theodore Roosevelt, Herbert Hoover or Richard Byrd. These heroes were and are the champions in their special spheres of life. Such men have high moral character, clear brains and strong constitutions; such men learned early the priceless value of health.

It was because of his belief that accomplishments are seldom achieved without a healthy, vigorous body that Richard Byrd, the man who flew over both the north and the south poles, took an interest in his health when he was still a boy. And later when he attended the naval academy at Annapolis he realized more than ever that he must build a healthy body. He set about to do this by trying out for the football team even though he weighed only 130 pounds. He made the football team and later became a member of the gymnastic team.

Then just when he had built up a strong body, a terrific blow fell on the future famous flier. Many a man would have given up, but not Byrd. This calamity befell him a few hours before the gymnastic meet between Annapolis and Yale. Byrd was the one contestant on whom the navy adherents based their hopes, and many of his faithful rooters made their appearance at the gymnasium to watch him in his last practice. Never before had they seen him go so high on the traveling rings. And then somehow he lost his balance; he clutched frantically at the rings, but he missed and fell to the hard gymnasium floor. At the hospital the surgeons found that he had broken the bones of one of his feet, and for weeks he lay suffering. Graduation time was fast approaching; desirous of keeping up with his class he studied in bed, and by sheer grit and hard work he managed to pass the final examinations.

After graduation he was assigned to one of the ships of the Atlantic fleet. In his tasks as an officer he proved himself a leader and a real man, but one day the Fleet Medical Examining Board passed a verdict that Byrd would have to be put on the retired list. His foot had failed to heal as fast as was expected, and navy rules would not allow a crippled officer to continue in active service. It was the final blow for Byrd. No man had ever loved his job more than Byrd did. Forced to leave the job he loved, he was a lost man; his mental suffering was worse than the pain in his foot. But he was down only temporarily. When the World War came, he begged so hard to be given a chance in the navy aviation corps that he was allowed a month's trial, and he succeeded.

Now, after having become famous for flying across the Atlantic ocean and over both the north and the south poles, he is more ardent

than ever in his belief that such achievements are possible because he has consistently tried to keep his body healthy. Every morning he faithfully exercises, and then just before lunch he goes for a walk which he calls "an airing out." About 5 o'clock in the afternoon he indulges in the most strenuous exercise of the day. It is then that he enjoys his favorite sports; in winter he prefers squash and in summer golf, tennis, swimming or sailing.

To be sure, Byrd is a "crank" on the necessity of keeping his body healthy by exercise. He believes that happiness and success are tied up with a man's physical condition; he believes that no machine can be kept in good running order unless it is kept in good repair. Carrying out his beliefs, he keeps his body in first class condition so that he can do the enormous amount of work that confronts him every day. He sees to it, in fact, that he is so healthy that at any time he could set forth on a long hike or a long flight.

On an expedition, Byrd expects his men, also, to keep healthy. He requires them to attend to their health, and when he sees that a man is slacking up in his work or is coming late to his meals or eating too little, he has this man set about immediately building himself up to normal health.

In all probability you have health now. Are you going to keep it? No one questions the fact that no matter how healthy you are you may catch some communicable disease or you may be injured in an unpreventable accident. Nevertheless there is a personal responsibility on your part in this matter of health. If you know that there is a bad epidemic raging in your city and that the health officer has issued a warning against appearing in public gatherings and yet you go ahead and attend such assemblies, the responsibility for your subsequent attack of the disease is surely, in part at least, your fault. If you drive your car too fast and violate the traffic rules, resulting in a serious accident with injury to yourself, it is up to you to assume the responsibility. Health does not come without some effort.

You will want health, not merely because it frees you from pain but because it brings happiness. You have undoubtedly observed that genuine happiness is rarely found where health is not present. While personal happiness may not be a goal in itself, there are few who do not desire happiness, for with it the mind and body seem to be able to attune themselves to life, and living seems most worth while. To be sure, you may be perfectly healthy physically and still be unhappy, the reason being that true health must display itself in both the body and the mind. And when you have both a healthy body and a healthy mind you will find that there is real joy in living.

Theodore Roosevelt found the joy in living, and as a man he was an example of splendid health. When a boy, though, he was frail and sickly, and during his student days at Harvard he spent a portion of his time building up his body by boxing, wrestling, playing games and hiking in the woods. Later, when he was 24 years old, he journeyed to North Dakota, knowing that the outdoor life of the prairie would build muscles of iron for him.

When Roosevelt arrived in North Dakota, he purchased land which he called Elkhorn ranch. He found that thorny underbrush surrounded his ranch home; deer inhabited the brush; some distance from the ranch house, prairie dogs strolled about their "dog towns" and, beyond these dog towns, skunks, coyotes, badgers and foxes roamed under the stars. To this country of endless uncultivated lands where cattle strayed far from their home-base and where the summers were hot and the winters cold, Theodore Roosevelt came to build a strong body. Here on wide uncultivated areas, Roosevelt lived the life of a cowboy. He was greeted by the natives as a tenderfoot, but in spite of their jeerings he stuck with his ranch. When a horse threw him, he got up laughing and mounted again, determined to master the mustang; and he did. Sometimes he was "on the trail" driving cattle for months at a time; at other times he was one of the hardest workers at the round-ups.

By conscious effort both in college and later on the wide expanses of North Dakota, Roosevelt built for himself a healthy body which enabled him to put a great deal into life and get a great deal in return. Always he seemed to be bubbling over with enthusiasm; life was a thrill for him. He enjoyed his work; he enjoyed his play; he enjoyed his food; he enjoyed his sleep.

During his versatile life he was a fighting politician, an author, a biologist, a hunter and an explorer. Every minute of the day was full of interesting work; but never, even when as President of the United States he was confronted with a press of business which seemed almost

insurmountable, did he neglect keeping his body fit and healthy. He attended to that every day. That was a part of living; that was what made it possible for him to lead such a strenuous and interesting life; that was what made it possible for him to get so much joy out of life.

A great deal of physical and mental energy is needed to carry on as did such men as Lindbergh, Byrd and Roosevelt. But it can be done; it can be done by possessing health and keeping it. Health will enable you to make the most of life; possessing a healthy body may not be a guarantee against certain vicious communicable diseases, but a healthy body is surely the first attainment in discovering the joy there is in living.

Most of you who read these chapters have health now, and your chief concern is to keep your health. When you discover that certain physical defects such as poor eyesight, diseased tonsils or decayed teeth have crept in on you, then is the time you should seek special medical advice. Aside from uncontrollable diseases and physical defects, health is a matter of habits. Of course you may be one who just hates to keep healthy. You may be like the native boy of the Philippine Islands who several years ago was watching an American engineer get ready for breakfast. First the engineer went through some setting up exercises; then he dived into the water, came out, soaped himself and swam again. He rubbed himself briskly with a towel. Next he carefully brushed his teeth and his hair, and shaved, after which he dressed for a hard mountain hike. "Say, mister," said the native boy, "you are a heap of trouble to yourself, aren't you?"

Practicing certain habits of health, however, is not nearly so arduous as it appeared to the Filipino. Learning how to be healthy is not a matter of memorizing a long list of rules or a matter of frequently running to consult a calorie chart. Health is a matter of establishing correct habits. The American engineer in the Philippines went through certain health measures automatically. If Lindbergh or Byrd or Roosevelt could appear before you now and give you their personal testimony, it would be that habits of health are easily learned and that living is not "a heap of trouble" but that it is a joy, a joy made possible by vigorous health.

(To be continued)

The Seven Health Ages of Man

THE seven ages of man so clearly defined by Shakespeare are given a new slant in the *Los Angeles County Health News*. The aspect of health carries the first age back to the prenatal period. The message for this period is intended for expectant mothers, and it proposes a proper program of hygienic living to insure the life of the baby and mother. Correct nutrition, periodic medical examinations, care of the teeth and many other precautions are essential and are vitally important during the entire prenatal period.

The second period, infancy, begins with the first breath of life and extends through the first birthday. One of the first procedures should be the registration of birth as required by the state public health law of most states. Cleanliness, sunshine, medical consultation, dietetic supervision, pure milk and cod liver oil play an important part in laying a foundation for physical perfection. Immunization against diphtheria and vaccination against smallpox should be attended to at about the time of the first birthday anniversary.

The preschool period, from 1 to 5 years of age, is the time to stress the formation of proper health habits. Infected tonsils and adenoids, impaired hearing and sight and other defects should be detected and corrected. Normal eruption of the sixth-year molars is essential in the foundation of good tooth structure.

The school age, from 6 to 19 years, constitutes the fourth period. This is the period in which to lay the foundation for future physical resistance. In this group, among the important topics to be considered are diet, acute communicable diseases, accidents, antituberculosis work, early treatment of heart disease, open-air classes, proper physical training methods, care of vision and hearing, and behavior problems. This is also the period of sex unfoldment and calls for common sense sex education.

The special care of adult manhood and womanhood is the preparation for healthy parenthood and the assumption of individual responsibility. Especial attention should be given to the control and prevention of respiratory infections, heart disease, accidents, tuberculosis, syphilis and focal infections. Annual medical examinations which include examination for beginning cancer should be started.

Middle age, the sixth period, is the age in which one must guard against the letting down of physical resistance to prevent the appearance of chronic conditions. Heart disease, kidney disease, cerebral hemorrhage, insanity and nervous disorders, accidental death, influenza and pneumonia are the chief causes of illness and death during this period.

Conservation of vitality and protection against pneumonia, influenza and overstrain are the special problems of old age.

Keeping Baby Covered

By LYLA M. OLSON

For this coverlet a strip of sheeting or muslin is folded across the chest, and the ends are tied to the crib. The corners of a baby blanket are pinned to the mattress, large safety pins being used.

A sleeping bag may be made in the shape of a square envelope, with an opening cut out to slip over the child's head. Attach tie strings to the sides and four corners of the bag. Tie them to the crib to keep the appliance in place.

KEEPING the baby comfortable and warm during illness or during the cold inclement winter months seems to be a difficult problem that confronts the majority of mothers. This apparent worry is easily remedied by the use of some simple device to keep the covers in place. The most effective method can easily be worked out by choosing the one that best applies to the restlessness of the child. The illustrations show a few simple appliances for keeping the baby covered at night.

For this covering a firm piece of material is used, which fits the size of the crib. An opening large enough to slip over the baby's head is cut out at the center, 15 inches from the end. Attach the strings to the sides and four corners. Tie them to the crib to keep the coverlet in place.

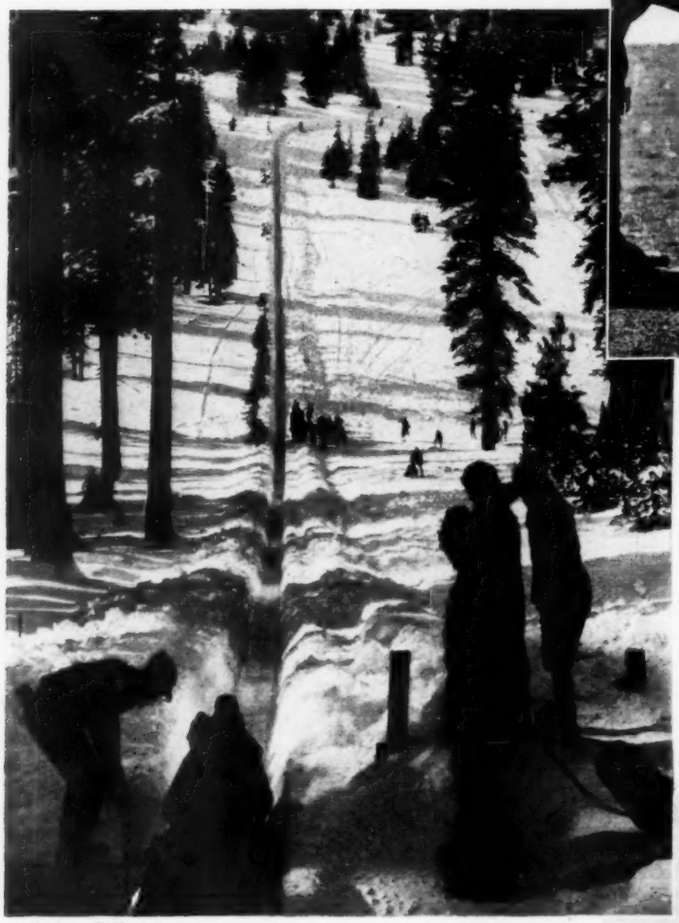
From a piece of old sheeting or muslin folded breadthwise, cut out a piece of the center, making an opening large enough to slip over the baby's head. Shape the sides to fit the chest and pin them together with safety pins. Allow the ends to be of sufficient length so that they may be fastened to the sides of the crib.

The sleeping garment shown to the left is made of soft firm material. Across the center front of the garment, stitch double-faced strips of muslin of sufficient length so that they may be fastened to the sides of the crib. A child's three-quarter-length jacket from which the sleeves have been removed may be used instead.

In this coverlet, made from a firm piece of material, holes are cut out to fit the arms and legs. Bind the sides and holes with ½ inch tape, and tie the four ends to the crib.

Ewing Galloway

The Eskimo is greatly dependent on the meat of the walrus for his winter menu. The low temperature of the North keeps the meat from spoiling.



Ewing Galloway

TOBOGGANING

Outdoor sportsmen in the Sierra Nevada Mountains know that tobogganing is invigorating winter sport. A toboggan load is shown above, ready for its ride down the icy path.

The smallest commercial **x-ray** tube is shown below. Its length is only 4 inches. It is used principally in dental work.

Underwood and Underwood

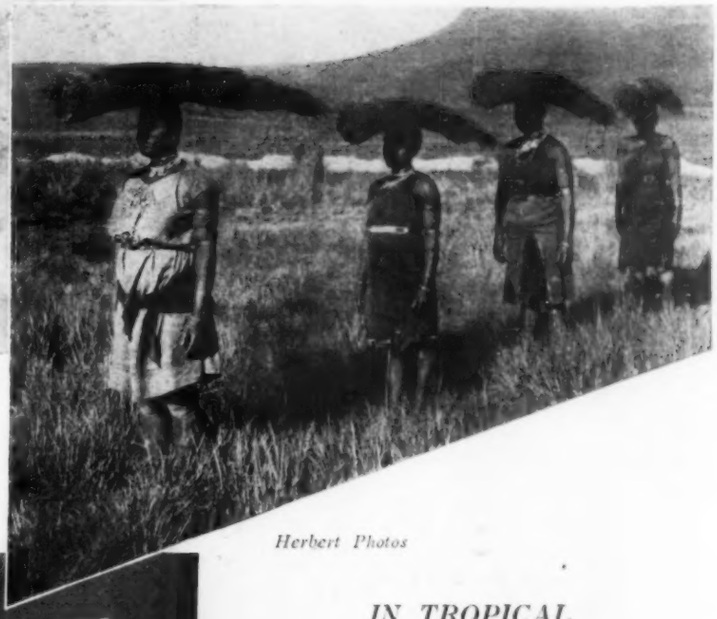
Alvina Lemke

How would Miss 1933 enjoy a bob sleigh ride if she were dressed in togs like these? The hats must have been a good shelter from the wind—as long as they stayed on!

Keystone View Company

WINTER SUNSHINE CHILDREN

Bundled up warmly around the feet, children of a sun school in Switzerland enjoy the advantages of air and sunshine of that locality. All the children appear healthy. They are seen to the left on a romp with their sleds.



Herbert Photos

IN TROPICAL LANDS

Four natives of South Africa are shown carrying reeds for the thatching of huts. It is customary in tropical countries for women to share in the manual labor.

As babies grow older, caring for them provides an advanced course, students in New York City learn in their study of the fine art of motherhood.

Keystone-Underwood

BABYCRAFT

When baby needs attention, that "helpless feeling" will be lost for eighty Camp Fire Girls who are learning babycraft at St. Luke's Hospital in Cedar Rapids, Iowa, as a part in their home-making program. Baby is the subject of much attention in the picture to the right.

FOODS

Their Selection and Preparation

FOOD SERVICE: II

Lowrey-Sill

HAVING chosen her glassware, china and silver with care, taking into consideration harmony, charm and appropriateness, the clever hostess now turns her attention to the selection of the perfect background for these perfect appointments.

The tray-cloth or table-cloth is the background against which the dishes and foods stand out; so one should give as much attention to this setting as the artist gives to the background for his studies in still life. These cloths and the napkins may be in good taste because of the excellence of the material and the delicacy of the patterns. Originality and suitability to other points in the home environment are salient features. The stereotyped "tray sets" certainly do not hold anything of interest, and the bizarre coloring of commonplace offerings does not stimulate any appreciation from the discerning viewer. Table and tray covers, whether of linen or of gay cottons, should possess a definite appeal because of their inherent good quality and their fitness to the entire setting. Since most persons use a greater portion of linen than of any one other fabric and since the "occasional" pieces are always chosen mainly for individual interest, I shall discuss here only the traditional linen table and tray goods.

Linen is made from the flax plant, either from the line fibers, which are long, shiny and cylindric or from the tow fibers, which are short, rough and easily broken. A linen cover made from the first type has a beautiful sheen and smoothness, and the threads show great strength. A cloth made from the tow fibers is uneven and easily roughed up, and the threads break unevenly.

Tow fiber linen may be processed so that, before laundering, it looks as crisp and lustrous as the more desirable line fiber goods. As in every other instance, however, the best tow linen surpasses the poorest line fiber linen. In selecting linen by the yard, one may ravel out a bit and note the length, smoothness and texture of the threads, but for pieces which are already made up there is no test. One must therefore depend on the reliability of the stamping and the statements of the salesperson, so it

is wise to buy linens from a firm with an established reputation for honesty in merchandising.

The texture of the goods will be conditioned by the size and shape of the yarn length, the number of warp threads and the number of filling threads. There are three main weaves: single damask, double damask and homespun. Single damask is made by each filling thread skipping four warp threads and going under the fifth. Double damask is made by each filling thread skipping seven warp threads and going under the eighth. Double damask is stronger than single damask and has a finer and smoother appearance and a greater luster. Homespun weave is an alternate over and under weave.

So much for quality. Now for the appeal made by the pattern. The linen is really the background for the composite picture of the meal, so it should not aim at a stellar rôle. The design should be small and well balanced.

Within the past few years, colored damask has seemed to find much acceptance. This is a matter of a personal choice. If a colored cloth is chosen, especial care must be given to the table decorations and the design and color of the china.

Size in relation to table or tray is important. The least amount accepted as an overhang in table-cloths is 9 inches, while the maximum depends on the formality of the occasion, but it should not exceed 12 inches.

Pattern cloths have a rather definite relation of width to length; they start with 1 yard square; the next sizes are 1¼ by 1½ yards; 1½ by 2 yards; 1¾ by 2½ yards, up to 2 yards wide and 4 yards long. Wider cloths, 2¼ and 2½ yards in width, increase in length by half yards to 4 and 6 yards, respectively. Round pattern cloths may be secured in diameters of 36, 45, 54, 64, 68 and 72 inches. Cloths sold by the yard range in width from 1 to 3 yards.

Tray-cloths come in a great range of sizes, the most commonly used being approximately 10 by 13 inches and 16 by 22 inches. Exquisite tray-cloths are obtained in Chinese embroidery on Irish linen.

Napkins range in size from 10 to 27 inches. The 10 inch size is used for tea; the 12 to 20 inch size for luncheon; for breakfast, the size ranges from 20 to 22 inches, and for dinner from 24 to 27 inches.

The table setting should consider all three meals. For dinner, the precious hour when the sordidness of business or professional contacts may be cast aside in the gaiety and spontaneous response of the family group, always use the finest linen, the choicest treasures of dainty china, and crystal, flowers or candies in keeping with the rest of the setting.

Homemakers have a definite responsibility to attempt here to recapture and hold a bit of the traditional allure of less hurried and casual days —of the days of treasured memories when the soft "Dinner is served" meant an entrée into a delightful hour of real conversation on topics of more than ephemeral interest. It is an opportunity to build these memories for the group to carry on.

For breakfasts, luncheons and Sunday night suppers, however, one may introduce a bit of originality and hold and deepen the interest of the group in meal-time. When shopping, watch for gay bowls, odd service plates and bits of lovely cloth for table covers. Do not use whole "sets" of dishes for these informal meals. Here are some suggestions from the home of an excellent homemaker. She has seconds of good line in ivory, a lovely green and a soft yellow. These are charming for outdoor as well as for indoor meals. There is a square green plate which may be used in serving custard pie, cream pie, delicate salads or bread and butter. There are bowls in soft green, rose, ivory and blue, with plates to match. The rose colored bowl is especially nice for any of the cream soups, except tomato; it also serves as an attractive container for the wheat cereals, either the crisp toasty brown ones or the creamy cooked ones; it adds allure to bread and milk or to crackers and milk; it is smart looking with black raspberries, blueberries or blackberries, and is exactly right as an odd bowl for cucumbers, chives and other salad ingredients. When the family is just two, these bowls are ample and dainty for holding the family service of potatoes or any green and white vegetables. This thoughtful homemaker has lengths of Peter Pan gingham in lovely shades for her table covers. Linen crash with a color line in jade green makes a set of table runners and mats.

But whatever one's choice of table covers, dishes and glassware, one will need a certain adherence to placement and adjuncts to service.

By

E. M. Geraghty

When one uses a cloth over the entire table, one should place a silence pad of heavy canton flannel, of quilted padding or of asbestos beneath it. The pad's edges should be short.

If a centerpiece is used, it should be low enough so that the members of the group do not have to dodge around to see one another. One should remember that the centerpiece is merely one point in the whole and should not obtrude!

The placement should be as follows: The knives and spoons to be used are placed to the right of the plate, starting at the outside with the one to be used first, then coming toward the plate with those next in order. The cutting side of the knife is toward the plate, and the bowl of the spoon is right side up. At the left of the plate are the forks, tines up, with the one to be used first on the outside. If possible, the

napkin is placed at the left of the fork. The water glass stands at the tip of the knife. If a bread and butter plate is used, it is put at the end of the regular fork. The butter spreader is placed on this plate with the tip toward the inside line of the table. Salt and pepper shakers are arranged between each two covers, or the more decorative salt and pepper dishes may be used at each place.

Tray service should, if possible, be done in courses. There are many reasons for this: it affords a closer approach to a normal service for the invalid; there is a greater feeling of ease and relaxation when the food is brought in this way; the hot foods may be hotter and the cold foods colder; the greater length of time taken up by the meal is often a pleasant break for the one served and, in addition to all these advantages, the tray looks less cluttered and is much more conducive to appetite appeal, an extremely important point in the feeding of the sick.

The arrangement of food, grouping and size of portion will be determined by the types of service. Side dishes are being used less and less, and the mode is swinging over to plate service. It is a case of fifty votes against fifty votes. Not all foods are adapted to plate service, unless one uses a divided plate; and even then one needs another dish for cooked tomatoes and other watery vegetables and for beets and spinach, when the consumer wants vinegar or oil on them. It is true that the occasional plate service may be planned to be most colorful and decorative, but how many variations are there on this theme? A mixed service is undoubtedly best, the plate service being used for the especially planned meals and the individual service for the general run of menus. But whatever the style, the service should always be interesting, with a thought for the color notes in each dish.

And as for garnishes, I plead for sanity. The heavens may fall on my head or the earth open up and swallow me at the opposition, but I do not like to see the shell of the lobster as a garnish for the salad nor do I favor the shell of the pineapple as a receptacle for salad or ices. Daintiness is the desired note—not a bizarre effect.

Lemon is probably one of the least appreciated garnishes. Watch the advertisements for really attractive ways to use this snappy adjunct to fish, fruit or vegetables. Why always hard cooked egg with spinach? Why not lemon? As for temperature of food, serve hot things hot and cold things cold.

The Answer

By

ETHEL A. CASE

Our house is usually neat,
With things where they belong;
The plants are green and blossoming,
And not a thing goes wrong.
The clocks are always ticking,
The dog is always fed,
The kitchen always tidied up,
Meals punctually spread.

But now it doesn't look the same,
No one can find his things;
The plants are brown, and every day
Some new disaster brings.
The clocks are sadly silent,
The dog looks gaunt and drear,
The kitchen is a crock'ry heap—
Cold dinner-things taste queer.

You'd like to know what turned the trick?
I'll tell you—simply, mother's sick!

BEGINNINGS OF AMERICAN QUACKERY

By
Henrietta M. Raess

QUACKERY in the early days of the American colonies was carried on much as it is today.

Few historians, indeed, have paid much regard to the medical phase of the early history of the United States or even to the human side. Puritans were little wont to give in to their bodily ills and much less wont to talk about them. Consequently they left only scanty records of early medicine and early quackery; but they recorded enough to show that quackery did exist.

Quackery did not come into being in the early colonies, however, until pecuniary advantages were found in a hitherto vastly unrewarded profession. Being a doctor in the days of the Puritans had been trial enough. Patients lay miles apart; sometimes going from one to another meant whole days of horseback riding. It was not uncommon for a skilful surgeon to ride 100 or even 200 miles to perform a capital operation, according to Thatcher, a medical biographer. Exposure and the hardships of journeys through rough countrysides required almost superhuman strength. Many times it happened that a doctor would be the only educated man in the community, and then he was called on to lead in prayer meeting, to give spiritual counsel to his dying patients, to lend a hand in the disposition of legal disputes and to offer suggestions at planting time. He was expected, if he was a doctor of any reputation at all, to conduct a school, to take the rustic farmer youths of the neighborhood into his home and to teach them to become doctors like himself.

Here was a profession in America with so few rewards that even the fakers were steering away from it. In the mother country the medical profession was prospering and good physicians were staying where they could make the best living, unless they either were Puritans themselves or were endowed with that peculiar quality, the missionary spirit; meanwhile quacks were rampant in England. Here was a country sorely in need of medical attention. Colonial town meetings were often turned to a discussion of inducements for physicians to reside in the

Thompson Photo

The Quack Doctor (from the painting by Jan Steen).

towns. In New Haven colony, in 1651, the good citizens were so anxious for a Frenchman, Dr. Chais, to remain among them that they provided him with a house, lent him furniture and paid him £10 in advance, so an early history by Atwater records.

Historian Atwater goes on to tell how a town meeting, again in New Haven, was concerned with the financial troubles of a physician. The record of the meeting reads:

"Mr. Augur (physician) declared that (it having pleased God to visit the town sorely by sickness the last two years) his stock of physick is gone, and how to procure more out of his returns he saw not, being disabled by nonpayment of some and the unsuitable payment of others. To get supplies those that were in Mr. Augur's debt were called upon to attend their duty. It was also declared that if Mr. Augur see cause to bring any of them to court, it will be witnessed against as a wrong to the public that a physician should be so discouraged."

A certain morbid "cure" for tuberculosis involved digging up the dead.

It followed in early 1700 that colonial governments sought to show appreciation for doctors' services as well as to attract new doctors to the colonies, and in doing so they made the first move that was to stimulate the growth of quackery in this country. They declared that persons who had obtained licenses to practice medicine should be exempt both from taxes and from military duty. There, at last, was an attraction to the job of playing missionary among people who were too poor to pay more than a sack of meal or a bushel of corn to their doctor for a whole year's service.

Licenses were freely asked and freely given. Until 1768, when the University of Pennsylvania opened its medical school, there was no college by which medical standards in this country could be established. Medical societies in their present form did not exist. Licenses were bestowed on any seemingly worthy citizen who showed the inclination to practice "physick," whether he was a barber, a horseshoer or an itinerant showman. As early as 1740, it was realized that incalculable harm was being caused by the well meant efforts. It was evident that licenses were being forged by those who had not bothered to apply for them, merely to gain exemption from taxes, and that ignorant laymen were obtaining licenses by false pretense in order that they might reap financial benefits from a rising profession.

The clauses exempting physicians from taxes and military duty were revoked about 1740. However, the quacks had already had a taste of a profession in which the public could be easily misled, and already they were beginning to find ways to make money at the game. Money was flowing with increasing ease through the colonies as native industries were started. Quacks began to advertise their miraculous cures and sit lazily in parlor offices waiting for patients or to brew strange concoctions in their kitchens. The heyday of "patent medicines" was beginning.

Two Connecticut doctors in 1784 were parties to a sensational exposé of a foreign quack in the town of Willington. The quack, whose name historians did not record, had gone about recommending a certain morbid cure for pulmonary tuberculosis. At last, after much persuasion, he found one distraught family willing to be treated. The cure involved the digging up of dead members of the same family who had died of the disease. A sprout would be found, he promised, that would effect a cure.

Drs. Grant and West of the town, hearing of the plans of the quack, went with him to the graveyard and witnessed the exhumation. The scene was also witnessed by one Moses Holmes, who afterward told the town meeting about it. Holmes' report is quoted from the records by John W. Barber in his "Connecticut Historical Collections":

"On the first day of June, instant, two bodies were dug up that belonged to the family of Isaac Johnson of Willington; they both had died with consumption. One had been buried one year and eleven months, the other one year, a third in the family was then sick. On full examination of the then small remains by Doctors Grant and West, not the least discovery could be made, and to prevent misrepresentation of the facts, I being an eye witness, confess that under the coffin were sundry small sprouts then fresh but most likely they were the produce of sorrel seeds which fell under the coffin when it was put in the earth, and that the bodies of the dead may rest in quiet in their graves without interruption, I think the public ought to be beware of being led away by such an imposter."

Yet even in those days, the concern of this public-spirited Moses Holmes was greater for the peace of the dead than for the health of the living.

"Tuscora rice" for consumption was the first American "patent medicine." It was introduced in 1711. Among the therapeutic fads of the day, on authority of Garrison's "History of Medicine," were quassiscups, saffron drops, purging sugar plums, anodyne necklaces for pregnant women and teething babies, macassar oil for the hair, and the metallic or magnetic tractors. It was not unusual for patients to think that they had been revived with the spirit of youth while under treatment with the tractors.

The American Revolution opened fields for investigation into medical practice. It was George Washington himself, according to Thatcher, who instituted the first medical examinations in Massachusetts to ascertain the qualifications of the surgeons and mates of the army. Connecticut attempted to control that horde of traveling fakers who made up medicine shows, by passing a law in 1773 which made it unlawful for fakers to exhibit games, tricks or feats to gather persons together and to invite any persons to purchase or to receive any physic, drugs or medicines.

Soon after the Revolution a doctor in Hartford, Conn., Lemuel Hopkins by name, found that his practice was hindered by these cobblers who preferred men to shoes. Dr. Hopkins, being somewhat of a poet, set down his laments and left an early record of a fight on a cancer quack. Dr. Hopkins' poem has been recorded by Barber and is also to be found in a more literary setting in Kettel's "Early American Poetry." It follows:

EPITAPH: ON A PATIENT KILLED BY A CANCER QUACK

Here lies a fool flat on his back,
The victim of a cancer quack;
Who lost his money and his life,
By plaster, caustic and by knife.
The case was this—a pimple rose,
Southeast a little of his nose;
Which daily reddened and grew bigger,
As too much drinking gave it vigor;
A score of gossips soon ensure
Full threescore different modes of cure;
But yet the full-fed pimple still
Defied all petticoated skill;
When fortune led him to peruse
A handbill in the weekly news;
Signed by six fools of different sorts,
All cured of cancers made of warts;
Who recommended with due submission,
This cancer-monger as magician.
Fear wing'd his flight to find the quack,
And prove his cancer-curing knack;
But on his way he found another,
A second advertising brother;
But as much like him as an owl
Is unlike every handsome fowl;
Whose fame had raised him as broad a fog,
And of the two the greater hog;
Who used a still more magic plaster,
That sweat forsooth, and cured the faster.

This doctor view'd with mooney eyes
And scowled up face, the pimple's size;
Then christen'd it in solemn answer,
And cried, "This pimple's name is cancer,
But courage, friend, I see you're pale,
My sweating plasters never fail;
I've sweated hundreds out with ease,
With roots as long as maple trees.
And never failed in all my trials.
Behold these samples in my vials!
Preserved to show my wondrous merits
Just as my liver is in spirits,
For twenty joes the cure is done."
The bargain struck, the plaster on,
Which gnawed the cancer at its leisure,
And pained his face above all measure.
But still the pimple spread the faster,
And swelled like toad that meets disaster.
Thus fooled the doctor gravely swore,
It was a right-rose cancer sore;
Then stuck his probe beneath the beard,
And show'd him where the leaves appear'd;
And raised the patient's drooping spirits,
By praising up the plaster's merits;
Quoth he, "The roots now scarcely stick,
I'll fetch her out like crab or tick;
And make it a rendevous, next trial,
With six more plagues in my old vial."

He purged him pale with jalap drastic,
And next applied the infernal caustic.
But yet, this semblance bright of hell
Served but to make the patient yell;
And, gnawing on with fiery pace,
Devour'd one broadside of the face.
"Courage, 'tis done," the doctor cried,
And quick the incision knife applied;
That with three cuts made such a hole,
Out flew the patient's tortured soul!

Go, readers, gentle, eke, and simple,
If you have a wart, or corn or pimple;
To quack infallible apply
Here's room enough for you to lie;
His skill triumphant still prevails,
For death's a cure that never fails.

The author of that well termed advice had a practical turn of mind. He was one of the charter members and organizers of the Connecticut Medical Society in 1792, one of the oldest of its kind, which was formed with the idea of raising the standards for physicians and warring on charlatans.

Today it is even worse for people to consult worthless imitators, because this country no longer suffers from a lack of responsible physicians.

Nevertheless, the problem of quackery grows more complex as quacks every day find new ways to advertise their wares and to attract a suffering public by their promises of impossible cures.

It was James Russell Lowell who said, "What need have we of Aladdin's lamp when we can build palaces with patent pills?" From Perkins, the man who made the tractors, on down, says Garrison's history, America has always been a paradise for quacks and nowhere have patent medicine venders made so much money. Robert Morris made this statement: "Some of the most responsible doctors will always be in the hands of financial fakers and some of the most responsible business men will always be in the hands of medical fakers." Unpleasant facts are daily bearing out each of his conclusions.

A Pair of Little Red Boots

By
PAULINE MYERS

Charlie would lunge after her on his poor twisted feet, catching at her skirts to keep his balance.

I FOUND him at school one day. He was thin and undernourished, and his lovely mournful brown eyes seemed altogether too large for his quaint little triangle of a face. He was 5, and the sadness of his eyes made him seem 500, ancient with sorrow and a most unchildlike wisdom. Charlie was club-footed; his poor little feet were so twisted that he had never been able to wear shoes, could walk only a few steps and could stand only a few minutes at a time. This deformity left him an outsider in all the rough play in which his brothers and their comrades indulged, and although still little more than a baby, he had acquired the quietness and solemnity of some little old man.

His mother had brought him to school with her when she came to protect her other children against the "furrin woman" and her new fangled notions of giving people medicine to keep them from getting sick. It was a sin and a shame, she vowed, to take medicine when the hand of God had sent the fever, and heaven alone knew what punishment would be visited by the Almighty, enraged at this attempt to thwart His will, even if "thar war anything in hit, which thar hain't." She did not express all this in words, but the "furrin woman" read the old, old argument in the sullen dumbness of her eyes.

So I carefully avoided all mention of the little lad's condition, and I acquiesced with little comment when she said she did not want her children "nocksulated," but I managed to be just as friendly and just as cordial as if she had been the most cooperative of patients, for I had learned through many disappointments that arguing on preventive medicine with many of these mountain people was just about as effective as casting stones into the ocean in the hope of building a bridge to Europe. Ignorance, superstition and a hysterical belief in the tenets of their religion formed a threefold lock on the door of their minds, and one key alone unlocks that door; that key is trust.

Therefore I felt my way most carefully, and I hinted in a manner most disgraceful and finally was invited home to dinner. I carried the frail little boy on the saddle in front of me the mile and a half to his home, where I ate fried eggs and "sow belly" and "shucky beans" and drank strong black coffee from a heavy china cup without a handle.

Thus began the battle, or rather the campaign, to give a crippled child his birthright. From the beginning I knew that I fought against almost overwhelming odds: the dreadful fatalism that closes the door to all science, all progress, all knowledge not promulgated by lay preachers and half-mad prophets of their own creed; the primitive mother love which lavished its greatest treasures on the most helpless of her flock, and the fear of "furriners" and all their ways.

Insurmountable difficulties these seemed, but I knew that I had three allies: a sincere interest in the child, the certainty that his deformity could be corrected if I could only place him under expert care, and a vast fund of patience acquired in years of mountain public health work.

So the campaign started and so, through six full months, it progressed. I found the enemy a dear little woman, sweet and poised and kindly, until I attempted to press forward too quickly to my goal—getting Charlie into a hospital for crippled children.

Then the sullenness came back into her eyes, the sweet mouth hardened into a bitter line, and mother love said, "Charlie ain't slept away from me one night, neither summer nor winter, anytime at all, in all his endurin' life, and he ain't agoin' to ever, if I can holp it. God's punishin' me by punishin' him, and I don't aim to let no other women, even if they are kind, as you say they are—though I've heard different—have the care of Charlie."

The first child who ran to greet me was Charlie, rosy and happy, wearing a pair of little red boots.

Then I would go away sadly, and the next time I was in the neighborhood I would stop again, with a gay picture book or a little "poke" of candy for Charlie. The other children had long since been won; even the dour father sitting on the stoop in the pale winter sunlight would remove his pipe from his blackened teeth long enough to say, "Light now, and hitch your beast. The woman'll be right proud to see you."

I would open the door and go into the bare clean room of the "big house," and the children would descend on me like a young avalanche, with a hundred eager questions, and the mother would come in from the "dog trot" which led to the "kitchen house," with the least 'un perched solidly on one hip; and Charlie, his poor little twisted feet swathed in several pairs of black woolen stockings, would lunge after her, catching at her skirts to keep his balance.

Greetings over, we would sit and gossip in a friendly way. "Long John Turner's woman had a new young 'un, her tenth." "Serena Phoebe, Jim's brother's gal, is jest worrin' the life out of her pa and ma to go away to school. She's got larnin' enough for a woman. She kin read the Bible, all exceptin' some of the hard words which the Lord most prob'ly put in there just to pester folks, and she kin sing a little snip out of the hymn books. That's larnin' enough for any women who won't have nothin' to do but find her a man and raise him a passel of young 'uns. Larnin' makes a woman proud and cantankerous and likely to dispute the word of her man, and that's agin the Lord's will."

And sometimes Charlie would creep up to my chair and stroke my riding boots with his little clawlike hands or cuddle his dark head against my knee and look up at me solemnly with a faint half smile glimmering behind the sadness of his great eyes.

He was such a silent child, timid as a little wild animal. He knew that I wanted to take him away from his mother, from his brothers and the blessed familiarity and security of this clean bare room, but he liked the excitement of my visits and he liked the little "play pretties" I sometimes slipped into my saddle bags for him, and I think that at last he came to like me, though I have only the evidence of that half smile, the cuddle of his dark head against my knee and the stroking of those tiny hands on my boots for evidence.

One day I lifted the boy into my lap and began a long, rambling story of the long ago days when I had been a little girl, just about as big as Charlie here and had lived in Illinois, where there was nary a hill as far as eye could see, and rocks were a rarity and the black winter mud was so deep that my father bought me a pair of little red boots with copper toes on them to wear to school. There was a sound of a muffled sob from the little head that had suddenly burrowed into my shoulder, and a choked voice said, "I want—I want to wear little red boots, too." Fool, fool, never to have realized the longing and the despair that had lain so long behind the stroking of those tiny clawlike hands on my boots! "Charlie, baby," I said, and the tears stood in my own eyes, "you couldn't wear boots now, but if you will go to the hospital with me and let me have your feet straightened, I promise that just as soon as you are well, I'll buy you a pair of red boots just like mine."

Across the dark head, my eyes sought those of the master of the house, for this was a great matter and here the decision rested. "By God," said the father of Charlie, in a voice that was a strange mixture of fear and determination, "right or wrong—he'll go, and he'll wear his little red boots." And the mother put her hand on my shoulder and said, "You're a right kind woman. I know you wouldn't let no harm come to my Charlie. He kin go."

A week later Charlie and I went to the hospital, and the next day letters began to come from Charlie's mother, quaint, misspelled, penciled notes that breathed a tragic dignity; and one theme ran through them all like a refrain of ancient poetry, "I ain't sat me down at my table and ate me nary a bite since Charlie went away."

I wrote my friend who was in charge of Charlie's ward, and she, dear kind soul, wrote faithfully to Charlie's mother; but still the letters came to me, "I ain't sat me down at my table. . . ." When I took another child to the hospital, I wrote and asked Charlie's mother to go with me, "If you'll promise just to go and visit with him and not insist on bringing him back."

I have tried to think what that trip must have meant to the little woman who had never traveled further from her mountain home than the twenty miles to the county seat, who had rarely seen a train or an automobile and had never been on a street-car. If I had hoped to find pleasure in her naive reactions to so much strangeness, I was disappointed. Although I was conscious that nothing escaped her quick eyes, she had a natural poise and dignity that many a society dowager might have envied. She saw everything and marvelled at much, but her mind, her whole soul, was intent on the child we were soon to see.

The children in the ward were having their rest hour when we arrived at the hospital, but we were allowed in. Through the quiet corridors and into the sun-drenched ward smelling of cleanliness and disinfectants, we passed to the little white bed in the corner, and Charlie's great eyes opened at his mother's touch. The mountain folk have few words and no gestures for deep emotions. Great tears welled up in the boy's eyes and on the mother's face a Madonna look shone, but not a word passed between them, not a word, not a caress, for seconds that seemed hours until I turned away blindly to deliver my other little charge to the nurse. When I returned, they were chatting gaily. A drawing book and a jigsaw rabbit had been produced from under Charlie's pillow, and he was telling his mother about going to school every day, only he didn't go to the teacher, he laughed, the teacher came to him because his feet weren't quite well enough yet for him to walk.

I saw tears in the mother's eyes again as she looked at the heavy, clumsy casts, but she brushed them away. Her boy was happy; he was not suffering, and I am sure that if the thought that she had sinned against her Maker in allowing him to take advantage of the miracles offered by the "furrin folks" had occurred to her then, she would have accepted the responsibility with a smile.

So was the battle for one child's birthright won. A year later, when my work took me back again to the school where I had first seen the little lad with the twisted feet, the first child who ran joyfully to greet me was Charlie, an almost unrecognizable Charlie, rosy and fat and happy—and wearing a pair of little red boots exactly like those a golden-haired little girl had worn through Illinois mud so many, many years ago.

The 1932 Index

THE INDEX and the title page for the 1932 volume of HYGEIA *are off the press and will be sent to any subscriber on request. Address The Editor,* HYGEIA, *535 North Dearborn Street, Chicago.*

What Is Indigestion?

By JULIUS FRIEDENWALD
and SAMUEL MORRISON

WHAT is indigestion? It is a term difficult to define because it is used widely, with so many different meanings. Literally the term implies poor digestion and is a synonym of the equally common term dyspepsia. Indigestion or dyspepsia may be defined as the discomfort occurring during any period in the process of digestion. This may occur as the result of malfunction of the stomach, intestine or any organ concerned directly or indirectly with the digestive processes.

It is usually held that indigestion is due only to disturbance of the stomach. This is a misconception, for it may have its origin equally as well in diseases occurring in the mouth, intestines or liver.

Since digestion is a process which converts food into such a form as to permit its ready absorption and assimilation by the body, indigestion may arise as a result of a disturbance in any part or organ associated with this process. On this account all types of indigestion have been described depending on the character of the disturbance or part involved. For example, attention has been directed to the following forms of dyspepsia: acid indigestion or dyspepsia, which is a variety associated with excessive acidity of the stomach; appendiceal dyspepsia, in which the symptoms are caused by chronic lesions of the appendix; atonic dyspepsia, a form ascribed to a lack of tone in the digestive organs; catarrhal dyspepsia, a variety accompanied by gastric or intestinal inflammation; cholelithic dyspepsia, in which the dyspeptic attacks are characteristic of gallbladder disturbances; fermentative dyspepsia, which is characterized by the fermentation of undigested food, and functional dyspepsia, which is of nervous origin. There are other forms of less importance.

The normal process of digestion consists of a mechanical and a chemical phase. It begins in

the mouth with the voluntary mechanical action of the saliva, which is secreted from three pairs of salivary glands. The digestive action of saliva is limited to the starchy food, which it breaks down to a simpler product, a sugar known as maltose, which is later broken down still further to a simpler sugar, dextrose. However, digestion does not progress far in the mouth, even though the chewing process mixes the food and saliva thoroughly. The churned food mass is swallowed quickly and passes down the esophagus to the stomach where the acid gastric juice soon inhibits the effect of the salivary secretion.

In the stomach the food is churned and mixed by the rhythmic contractions of the stomach wall; at the same time it is intimately combined with the acid gastric juice containing the digestive enzymes, pepsin and rennin, as well as hydrochloric acid. Pepsin combined with hydrochloric acid inaugurates the digestion of protein foods. The protein is carried through many stages of digestion and finally reaches a soluble form which renders it nearly ready for absorption.

But even then digestion is not by any means complete, for in the intestine further simplification takes place, and it is in the form of this much simpler product that the original protein is really absorbed. In the stomach, therefore, the digestion of protein foods is initiated and prepared for intestinal digestion. The other enzyme of the stomach, known as rennin or rennet, has the property of curdling milk, thus forming casein, which, like other proteins, is then digested. Little or no digestion of fats occurs in the stomach, and the only action on starchy foods is that caused by a continuation for a short period of the action of the unneutralized saliva. Contrary to what is usually believed, the stomach absorbs but little of its contents; it is in the intestine that the major absorption takes place.

When the food leaves the stomach it enters the intestines, where it undergoes its most profound digestive changes. In addition to the mechanical mixing, churning and segmenting, the food is acted on by the digestive secretions of the pancreas, the intestinal glands and the bile. These secretions are all alkaline and therefore neutralize the acid stomach secretion. They carry on the digestion of the starchy foods begun in the mouth, the protein foods begun in the stomach and the fats which have not yet been chemically attacked. Practically all digestion is completed in the small intestine; little or nothing is left for the large bowel in this direction. The large bowel is primarily an excretory organ except for the absorption of liquid elements. In the small intestine the various digestive secretions, acting specifically on proteins, carbohydrates or fats, break them down to simpler products which can be absorbed. Proteins, for example, are broken down to amino-acids and absorbed by the small intestine; fats are emulsified and likewise digested, and starchy foods are similarly broken down to simple sugars, which are quickly absorbed by the cells lining the small intestine. After absorption has occurred, the food substances undergo further changes in the intestinal cells and are then taken up by the blood, which transports them to all the cells of the body.

The foregoing discussion briefly summarizes the process of digestion. It is not a simple term to be applied to any stomach disturbance alone, for it is evident that it may arise in any part of the entire digestive system. For example, indigestion may be experienced because the food passes through the intestine so rapidly as not to allow proper digestion; it may arise because a digestive enzyme such as pepsin is absent; it may occur because the nervous control of secretions or mechanical movements is disturbed, or it may result from numerous other causes, some of which have already been mentioned.

The symptoms ordinarily experienced when dyspepsia occurs are fulness, distention, abdominal pain, flatulence, vomiting or other discomforts that frequently follow the taking of food. In many instances the dyspepsia is due to a want of proper mastication. Many persons' teeth are so poor that proper mastication is impossible, or it may be that the food is swallowed too hurriedly without being properly chewed. Consequently, little saliva is secreted; starchy food, which should normally be digested by the saliva, passes into the stomach unchanged, and the protein foods, which should be digested in the stomach, are imperfectly broken up and are thus much more slowly acted on by the juices of the stomach.

In reality, there are two types of indigestion, the organic and the functional. However, before discussing these two forms, it is necessary to draw attention briefly to a group of conditions commonly and erroneously though popularly termed indigestion, which are due primarily to disorders of organs not digestive. These diseases simulating dyspepsia are accompanied by one or other of the symptoms usually prominent in true dyspepsia. As an illustration of this condition, attention may be directed to the vomiting associated with pregnancy. This vomiting is entirely a part of the pregnancy and is not actually due to any digestive disturbance. Patients with diseased urinary organs may likewise present symptoms of nausea as well as loss of appetite and other so-called digestive mani-

festations which would suggest primary disease of the digestive organs, whereas in fact the urinary system is at fault. Because of the prominence of the digestive symptoms, various types of migrainous headaches may simulate abdominal disease. Just as a stomach disorder may reflexly give rise to symptoms of heart trouble, so the latter may simulate the former; and frequently that which the patient has termed indigestion is found to be caused by a cardiac lesion.

Abdominal pain, on which the diagnosis of indigestion often rests, may be due to many causes. Often the cause is not in the abdomen but is referred from the chest, the bones or the muscles; sometimes the pain is due to a nervous disease, and in some instances it may be associated with a diseased kidney or even may be due to a rupture.

Thus it is seen that the term indigestion or dyspepsia is commonly applied to conditions in which the symptoms simulate those of dyspepsia but in which actual disturbances of digestion are entirely absent.

Organic dyspepsia is quite common and is often found in cases in which the preliminary impression pointed to a functional disturbance. Careful investigation is important in disclosing an organic basis for an indigestion which heretofore had been considered functional despite the presence of pain, loss of weight, vomiting and other chronic discomforts. Even in instances in which the symptoms are acute as well as in those in which there are minor symptoms periodic in nature, the existence of organic disease must always be kept in mind.

Among the organic diseases of the stomach, acute gastritis (acute gastric catarrh), chronic gastritis (chronic catarrh of the stomach), ulcer, cancer and stenosis of the pylorus are to be especially considered. In the intestines similar organic disturbances must be kept in mind.

Acute gastritis is usually the result of errors in diet, in the direction either of too much food or of food which is too irritating. Excessive use of alcohol is not uncommonly a cause of this disease. As a consequence an inflammation of the lining membrane of the stomach is produced, and symptoms of abdominal discomfort, headache, eructations, nausea and vomiting follow. Intestinal symptoms, such as diarrhea or constipation and colicky pains, may also manifest themselves. The tongue may be furred and the breath unpleasant, and the appetite may disappear. In more severe types of this disease, festering may occur, and evidence of a severe infection with high fever is manifested. In some instances a toxic form of gastritis occurs following the ingestion of strong acids, alkalies, or poisons such as arsenic, phosphorus or corrosive sublimate. In these instances the symptoms become intense, and collapse may supervene.

Chronic gastritis may be due to dietary indiscretions, to constitutional causes, such as anemia, tuberculosis, diabetes or chronic kidney disease or to local conditions, such as gastric cancer, ulcer or engorgement of the stomach wall as in liver and heart disease. According to the degree of severity of the disease there may be present few or many symptoms of indigestion. Discomfort may occur following eating. Nausea, belching, flatulence, distention, vomiting, constipation or diarrhea may be present. Examination of the stomach contents discloses a large amount of mucus with a decreased quantity of the digestive acid.

Cancer of the stomach should always be suspected when indigestion arises suddenly in a patient at or after middle age. Only by a complete study can it be discovered in its early stages. The symptoms at first are frequently vague and not in the least suggestive of an organic disease.

It is most important at this time to arrive at an early diagnosis of this disease, as it is only through early discovery that a radical operation can be performed in order to bring about complete cure. However, this can be accomplished only by impressing the patient with the necessity of undergoing a complete examination when signs of indigestion suddenly arise at this period of life.

The history of ulcer, acute or chronic, is not uncommonly typical. In many instances the symptoms are mild, consisting of a slight abdominal discomfort and occasional vomiting with perhaps some blood. The patient usually appears well nourished and developed and consults the physician for what he considers only a mild stomach upset.

In pyloric stenosis, that is, narrowing of the outlet, the stomach becomes dilated as the result of its increased effort in propelling its contents into the intestine. This condition is usually due to the formation of scar tissue as a result of a healing ulcer or of a growth at this site. The predominant symptom is vomiting and especially of extremely large quantities, often of remains of food taken the day previously. The condition can be readily diagnosed by a physician.

Organic diseases of the intestines as well as of the pancreas, liver and gallbladder may also produce dyspepsia, for all these organs are concerned in the process of digestion; impairment of their digestive functions may often lead to indigestion. It is therefore essential that this relationship is remembered in considering the etiology of organic dyspepsia.

Indigestion that appears in the absence of organic disease is usually functional in origin.

It usually occurs in individuals who have so-called nervous constitutions; on this account the treatment must necessarily be directed at the individual as a whole rather than at the part which is supposedly affected. Since this type of indigestion is not associated with any organic disease, the symptoms may vary greatly from time to time in the same patient or in different patients. Nervous dyspepsia is frequently characterized by peculiar periodic or paroxysmal attacks with many unaccountable periods of well being or by an absence of symptoms even after indigestible food has been taken. The onset of the attacks of indigestion occur often without apparent cause, and the intervals of well being are most striking. As a rule the complaints of the patient do not bear any relationship to the quality and quantity of food ingested but are mainly dependent on overtaxation, mental disturbances and excitement; this fact is of great value in the diagnosis. In some instances a muscular weakness may be most prominent, with a delay in the passage of the contents through the digestive tract, while in others a hypermotility may occur; both of these conditions may lead to a varying train of symptoms. Sometimes the normal movements of the digestive tract become unusually active, and gurgling noises in addition to abnormal discomfort become exceedingly annoying. Air swallowing is common in nervous individuals and manifests itself by noisy belching, abdominal distention and general discomfort caused occasionally by palpitation. Nervous vomiting, occurring usually after meals, is not an uncommon form of functional dyspepsia and is often a most difficult condition to combat. Change of environment may be followed by remarkable improvement in apparently hopeless cases.

Rumination, cardiospasm, pylorospasm and atony are other forms of functional dyspepsia caused by motor disturbances. In rumination, individuals regurgitate and rechew the food. It is seen most frequently in neurasthenic and hysterical patients. In cardiospasm the lower part of the esophagus or the upper end of the stomach contracts, and the resulting spasm causes the appearance of some of the symptoms known as indigestion. In pylorospasm, on the other hand, it is the lower end of the stomach that becomes spastic. In atony of the stomach or intestines, the muscular layers in the walls of these organs have been weakened to such an extent that they do not empty properly. Such a stagnation gives rise to symptoms of indigestion.

Changes in the gastric secretion commonly occur as a result of nervous disorders. These secretory disturbances also give rise to functional dyspepsia. For example, there may be an excess secretion of acid in the stomach. In such instances patients may complain of pressure in the upper portion of the abdomen or of heartburn and sour belching. Occasionally vomiting occurs. On the other hand, a decreased secretion of acid may exist, and in such instances the food may not be properly digested owing to deficient secretion. In some cases a complete absence of gastric secretion occurs.

Finally, functional dyspepsia may be due to sensory disturbances, such as the imaginary presence of symptoms caused by various organic diseases. Severe pain may be experienced without any apparent cause either in the digestive tract or elsewhere. Usually the symptoms are unusually atypical. In other types of sensory disturbance, abnormal appetites may be noted simply as a result of functional derangement. Hunger sensations may be experienced without the desire for much food; the sense of satiety may be absent in some cases; there may be abnormal cravings for certain types of food; there may be a total loss of appetite, the result entirely of a "nervous" or hysterical state.

When a patient complains of indigestion, many methods must be employed in order to determine, if possible, the underlying cause and to institute adequate treatment. Therefore it becomes necessary to obtain a clear history of the disturbance as well as of the past and family histories. Patients often give unimportant details and seem to forget the relevant factors. Consequently, history taking becomes an art, for it is necessary to sift from excessive detail the essential facts. Even though the story of the present illness seems of immediate significance, it is often found that the past history is a great aid in evaluating the symptoms. The family history, too, often contributes in deciding on the nature of the existing ailment. Frequently the history is in itself sufficient to distinguish a functional from an organic type of indigestion, but there is no justification in arriving at a final decision unless a complete history is taken. The wise physician is careful to evaluate certain telltale symptoms obtained voluntarily from the patient.

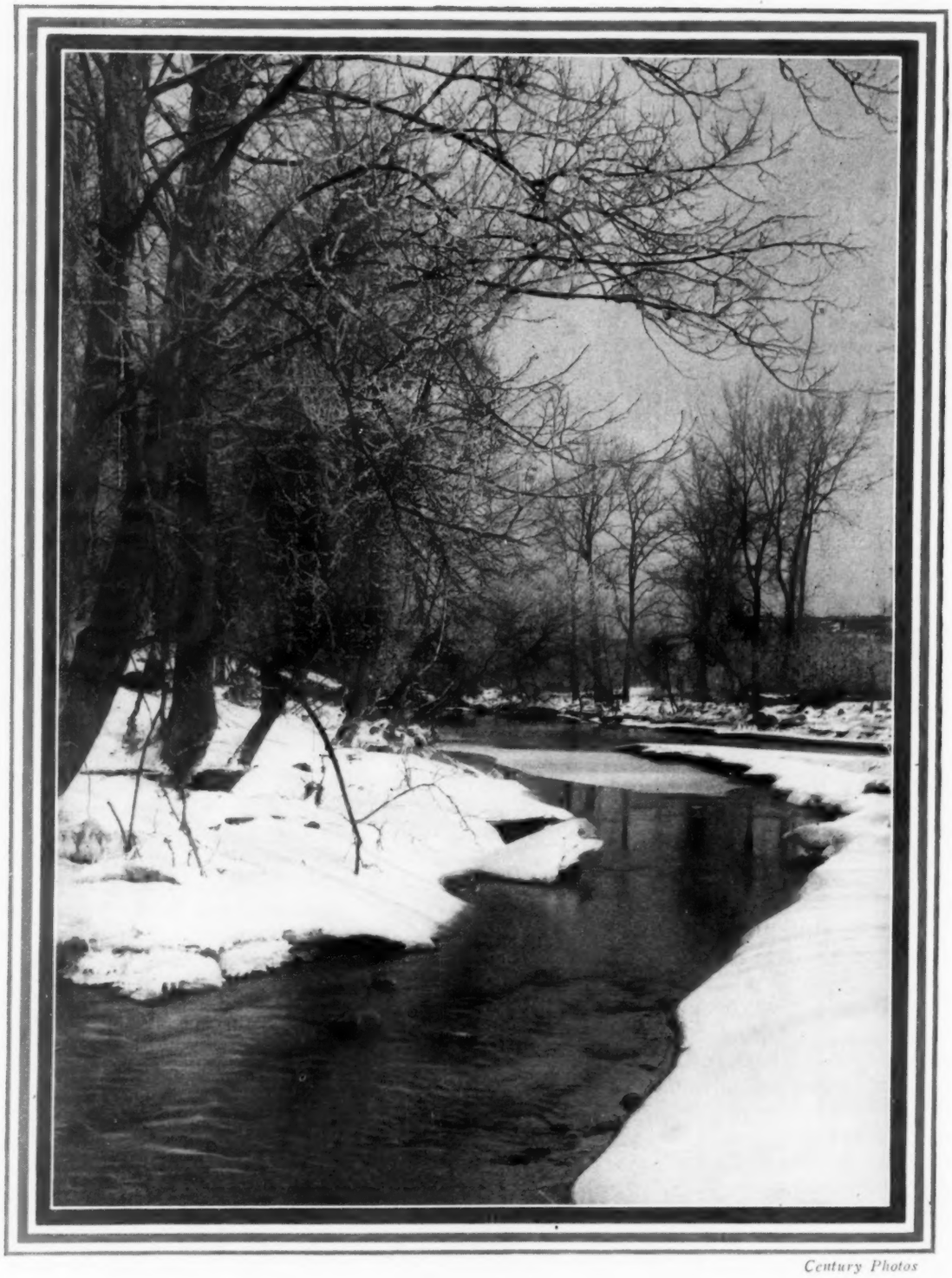
After a satisfactory history has been obtained, it must be followed by an exhaustive physical examination. The results of these two methods of investigation determine whether or not further examinations are necessary. Some of these accessory measures include the examination of the urine, stool and blood as well as an analysis of the stomach contents and x-ray studies.

A careful investigation leads to an accurate diagnosis, and in such a diagnosis a differentiation must be made between organic and func-

tional dyspepsia. After determining the organic nature of a disease one must discover the exact organic cause, and in such a differential problem all factors already discussed must be considered. By a process of elimination many possibilities may be gradually excluded, and finally the underlying causative agent is discovered. In the functional group the diagnosis may be quite difficult although at first thought one would expect it to be relatively simple. In order to establish the purely nervous character of gastric disorders, all organic disease must be excluded, though this is frequently a difficult task. It is most important, however, to establish the diagnosis, and every effort should be made in this direction in order to outline properly the best method of treatment. The type of functional disturbance has been considered unimportant by many physicians, but as a matter of fact it is of considerable importance and should be carefully differentiated.

The treatment of indigestion depends largely on the cause. When the attack is acute and rapidly subsides, often never to recur, the treatment is usually of but little importance. In most instances some form of dietary regimen and bowel regulation is indicated. The diet varies somewhat with each case, but the necessity for regular and proper bowel evacuation is always present. In the cases of gastritis various forms of medication must be utilized and in some instances washing of the stomach must be practiced. In every case of indigestion, caution against hasty and imperfect mastication must be insisted on. Care in avoiding the use of too hot and too cold foods will do much in preventing many attacks. Often a simple liquid or soft diet will relieve every symptom of indigestion. Eradication of foci of infection, such as bad teeth and tonsils, may in itself cure many cases of indigestion which are secondary to such disturbances. Symptoms must be relieved and food phobias overcome. It is not uncommonly due to the unreasonableness of a food phobia that, in numerous instances of indigestion, relief is not obtained. In order to overcome such symptoms as flatulence, vomiting, constipation and distention, dietary regulations are of great importance. In many instances, too, instructions as to proper habit formation will accomplish much in the correction of a dysfunctioning gastro-intestinal tract. Indigestion associated with cancer, ulcer or heart disease demands special forms of treatment, which can usually be satisfactorily rendered only by a capable physician.

The treatment of functional types of indigestion is not always a simple matter, and in truth it is often much more difficult than in the organic types. The treatment of these disturbances aims first at improving the general physical and mental states of the person affected. The general hygiene of the body must be improved, adequate exercise and rest must be obtained, and worry must, as far as possible, be eliminated. In certain conditions, sedatives must be employed; in other cases, drugs which relieve spasm may be resorted to. In atonic conditions, that is, in conditions showing a lack of normal tone, tonics are indicated; in certain cases increased acid secretion must be counteracted, and when there is insufficient acid secretion this must be supplied. Careful management of diet is always of importance, but in nervous individuals restrictions in diet should be continued only for as long a period as is known to be absolutely imperative, and restrictions should be gradually withdrawn as soon as this can be accomplished. The overcoming of fears, not only of food but also in regard to the seriousness of the patient's condition, is often imperative in these cases before relief can be expected. This can be accomplished if the physician gains the confidence of the patient. It is not uncommonly observed that, owing to fanciful ideas, many of these patients gradually eliminate one form of food after another until little is left on which to subsist. In consequence they rapidly lose flesh and strength and pass into a state of undernutrition. Relief of pain should be obtained, but the means of accomplishing this vary with the underlying cause. Bowel regulation and avoidance of diarrhea and particularly constipation are often indispensable for the cure of indigestion. We have not made any attempt to relate in detail the methods of treating indigestion in its various forms, which can only be properly accomplished under medical supervision. It has been our object here to bring more clearly to the reader's attention the meaning of indigestion or dyspepsia, to stress its importance and to indicate that in a large proportion of instances it can be overcome by relatively simple measures.



Century Photos

January comes;
With light and silent tread
He passes near the slumbering brook,
And o'er the land he spreads
A blanket white and downy soft,
A-tucked in round the edge.

January breathes;
And lo! the barren twigs above
Are clothed in crystal sheaths.

FRANCES G. KLAN.

Clean Safe Milk

By
S. V. LAYSON

All photos by courtesy of Sheffield Farms Company

On a model farm the barns are located where drainage is good.

THE MEANS and methods of producing the milk which is put at their doors each morning with the regularity of clockwork are more or less of a mystery to many city dwellers unless they are fortunate enough to have been reared in the country or in a small town.

This recalls an incident that occurred a number of years ago. It was Saturday afternoon, and children were being admitted free to see the National Dairy Show herds stabled in the Union Stock Yards amphitheater in Chicago. Judging by the questions that were put to weary herdsmen and attendants, there must have been a million children going through the barns that October afternoon, but one youngster stands out in my memory from all the others. I was in the act of milking one of the bovine queens that proved a prize winner the next week. Though I have forgotten his name, I can still see that boy's eager face. He came questing down the aisle between the rows of cattle, a tired mother attempting to keep up with him. The milking process attracted his undivided attention, but before he could formulate a question his mother offered by way of explanation, "Bobby, that is where your milk comes from." In unabashed certainty he replied, "No, mama, we get our milk from the milkman." Before Bobby passed on down the aisle, however, he had in his boyish way delved into some of the mystery of milk secretion. That afternoon was a liberal education both to Bobby and to me. He should be grown to young manhood now, and I hope he remembers some of the things he learned that day as I do.

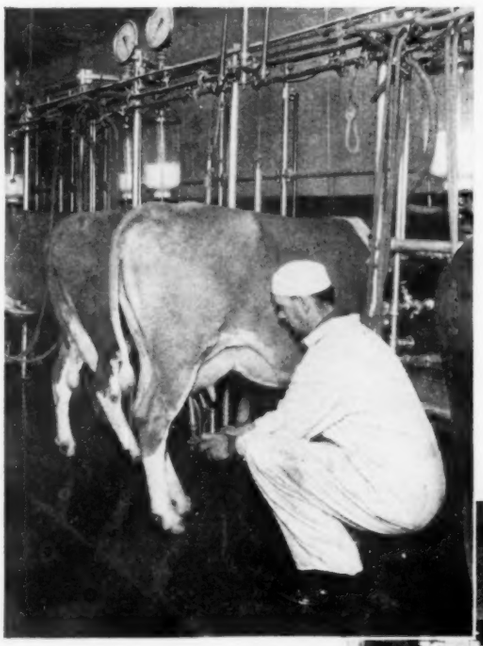
Cow barns require ample light and ventilation and impervious floors.

It would be mutually advantageous to producer and consumer if the city milk consumer took more interest in the source and quality of his milk supply. But what is quality in milk?

Milk as it leaves the mammary gland of the well fed normal healthy cow is a "nearly perfect food" for all ages but more especially for children. The nutritive balance of freshly drawn milk is not equaled by any other food. The quality is then at its best. Quality in milk, so far as it may have a bearing on health, is largely dependent on the bacterial content. Milk from healthy cows, drawn under proper sanitary precautions, is practically germ free and the few germs that are present do not impair the quality if they are kept under control and are not allowed to multiply; but thereby hangs the tale.

In order to retain some semblance of its original purity and wholesomeness, milk must be drawn from healthy cows under environmental conditions that fulfil certain sanitary requirements. It must be handled in clean sterile utensils, promptly cooled to 50 F. or below without freezing, and transported without contamination to a properly equipped and efficiently operated pasteurization plant. Here it is pasteurized, cooled and bottled under sanitary conditions and kept cold until ready for use. Milk so produced, handled and pasteurized is as safe as one may hope to obtain with the present knowledge of the subject. Advances in dairy science are continually providing new and

better methods, and science may eventually produce the unqualified perfect food. Until that time, however, much remains to be accomplished in the way of putting into practice on the dairy farms and in milk plants of this country the knowledge now available regarding proper sanitary methods and practices of milk production and handling.

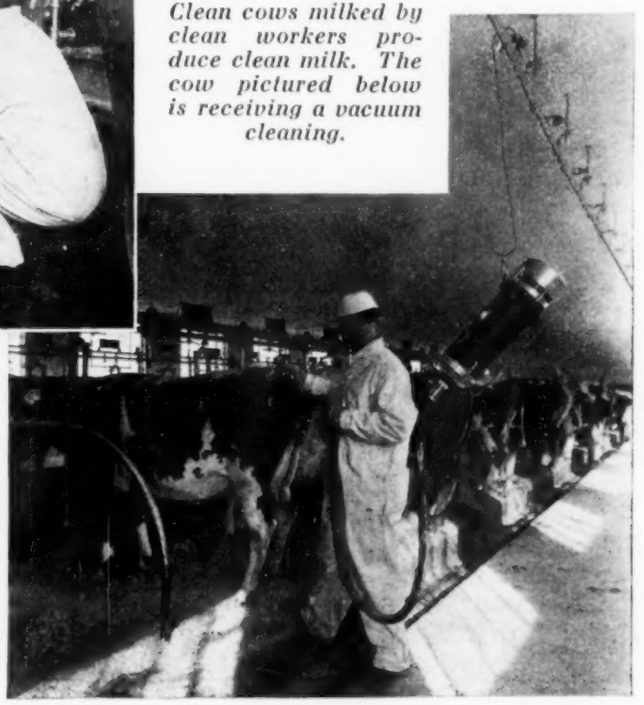


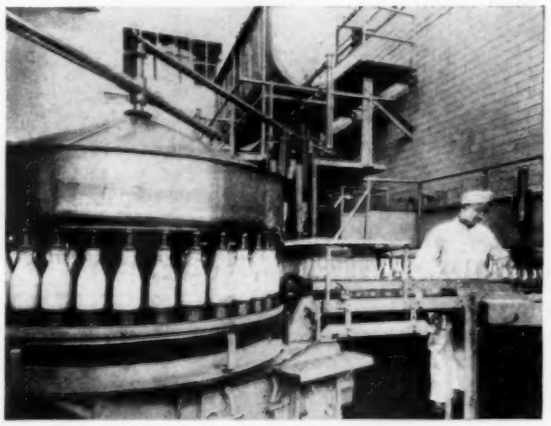
The per capita consumption of milk at the present time is approximately half of what it should be to meet the nutritional needs consistent with economy and good health. Quality in milk is being stressed by producers, organizations and distributors, and certain feeble efforts are being made to carry the work onto the farm. The farmer's alibi, however, is that he is not getting paid for quality milk. In many cases this is true. Several instances have come under observation in which John Doe, a farmer, produces Grade A milk under excellent sanitary conditions, whereas his neighbor, John Roe, half a mile up the road produces just as much milk but under conditions that would cause the most enthusiastic milk fan to dislike milk. The two men are receiving the same financial returns for their milk. The pity of this is that when Roe is approached by those interested in improving the quality of milk, his reply is, "Why should I spend money to fix my barn, get healthy cows and build a milk-house when my neighbor Doe has all those things and he doesn't get any more for his milk than I do?" His basis of argument is sound, though it may not be esthetically correct. Until the payment for milk is put on a strictly quality basis, the unsuspecting milk consumer may rest assured that he is getting his share of farmer Roe's milk.

The student of dairy science recognizes the fact that certain dairy farmers can produce exceptionally high grade milk under environmental conditions which are unfavorable to the production of clean milk, but such individuals are the exception rather than the rule, and requirements for the production of clean milk must cover all conditions and all producers.

The sanitation of milk should start the instant it leaves the udder of the healthy cow. It is inevitable that some germs get into the milk, but control of the herd and personnel will reduce to a minimum the possibility of disease-producing germs getting into it. Proper pasteurization is the final safeguard in destroying any disease germs that may get in. Other factors may be controlled before pasteurization by clean methods, sterile utensils, cooling, and careful transportation to the plant. Efficient pasteurization is the final safeguard that makes doubly sure the safety of the preceding methods and precautions.

Clean cows milked by clean workers produce clean milk. The cow pictured below is receiving a vacuum cleaning.





Milk should be pasteurized, bottled and cooled under sanitary conditions.

There are certain basic requirements deemed necessary for the production of clean milk.

Healthy cows are the first essential to safe milk. They must be free from tuberculosis, contagious abortion and all diseases transmissible to man which might cause the production of abnormal milk.

Healthy workers are as important as healthy cows. Each person handling milk or milk equipment in any capacity must

be free from communicable disease. To fulfil this requirement, periodic health examinations by a physician are necessary.

The environment in which milk is produced must be such that the easiest methods will be the cleanest. Human nature being what it is, the average individual seeks the easiest way of doing things. If the dairy barn is so constructed and arranged that clean methods can be practiced without extra effort on the part of workers, cleaner milk will be the result. Therefore the barn must be located where natural drainage is good or where the location is made satisfactory by artificial drainage and grading. This is necessary to prevent mud holes in which mud and filth would collect and flies would breed. Cows become soiled in mud holes, thereby causing much work to clean them properly. Failure to clean them means dirty milk.

Construction features of the dairy barn that make sanitary methods easier are impervious floors and gutters, ample light and good ventilation. Cows require plenty of fresh air if they are to produce to their maximum and remain healthy. Light is vital to maintain cleanliness and health.

Prompt cooling and protection from contamination by flies, dust and odors make a milk-house or milk-room necessary. It should be located in proximity to the barn but not directly connected with it. In the milk-house there should be provided means for cooling and storing the milk and for cleaning, sterilizing and storing utensils. The milk-house should be used only for milk and milk utensils. It is important that all outside openings are screened during the fly season.

An adequate accessible supply of safe water is essential to the production of clean milk. It is necessary for cleaning utensils, for the personal cleanliness of the workers and for the needs of the herd.

Sanitary toilet facilities on dairy farms must be provided if flush toilets are not possible. A sanitary pit privy so constructed that flies, rodents and farm animals do not have access to the waste material will fulfil this requirement.

The utensils should be so constructed that they may be readily cleaned. They must be made of smooth corrosion-resisting material with all seams and joints soldered flush, and all parts should be accessible to the cleaning brush. The small-top covered pail should be used for milking as it prevents at least 50 per cent of the dirt from getting into the milk.

The sanitation of utensils should be assured by a thorough washing with alkali washing powders and brush scrubbing after each usage. This should be followed by rinsing and sterilization by steam, hot water or chemicals. The utensils should then be placed on clean racks to dry and air. The drying-rack should be located inside the milk-house where the utensils will be protected from dust and fly contamination.

Cleanliness of the cows at milking time is an important factor in the final quality of the milk. Flanks, udders and teats should be clean and free from loose dirt and hair that would fall into the milk pail. Cleaning is facilitated by keeping all long hair clipped from flanks and belly.

The personal cleanliness of milkers and the methods of milking have an influence on the safety of the milk. Milking with wet hands, for instance, is an abominably dirty practice. The state of sanitation of the milk stool may seem a trivial matter, but if it is dirty it follows that it is full of bacteria and will contaminate the milker's hands and thus contaminate the milk.

Control of the bacteria that do get into milk, in spite of all precautions, depends on lowering the temperature to a point at which they will not multiply to an appreciable extent.

In some urban centers, civic and social clubs and organizations are becoming interested in the milk problem, and these organizations have united with producers' and distributors' organizations in an effort to extend the use of milk, to improve the quality and to provide a steady uniform market. The program is a constructive one and should result in greater consumption of better quality milk with the resulting improvement in health of those communities.

"You are old, Father William," the young man said,
"And your hair has become very white;
And yet you incessantly stand on your head—
Do you think, at your age, it is right?"

FORTY YEARS OLD

Life Expectancy and the Diseases of Middle Age: I

THE ETERNAL query of youth—how to attain vigorous unimpaired old age! But mark the note of puzzlement and reproach in Lewis Carroll's youth. He knows full well that this is unusual, that by all rights his venerable parent should either be dozing in the chimney corner, gouty and wizened, or sleeping a decorous sleep under the sod. Jealous of the old man's secret, he is filled with envy and resentment. Little wonder! He is only exhibiting the most ancient of all human desires, that of securing and maintaining life.

Indeed, the life quest is older than man. It has been the predominant characteristic of all forms of life from the simplest unicellular organisms, born in that remote past which the geologists call the Archaean, some five hundred million years ago, through the Mesozoic, with its monster dinosaurs, down to the Pliocene, which saw the appearance of primitive man about one million years ago.

Although self preservation or the will to live is accepted as a universal characteristic of all living forms, few of us appreciate the rôle that it has played in the human drama. Sometime before the dawn of history, man had acquired the ability to examine the conditions of his environment. He began to think, and gradually to his instinctive will to live was added the conscious effort of safeguarding his own existence, both here and hereafter. In his search for elixirs of life, one finds him early employing all sorts of symbolism of form and color. For example, he ascribed to the teeth and claws of wild animals, to the mere form of life-giving woman or to the color of life blood a magic power in curing diseases and in restoring youth, so as to prolong his days on this earth and to take care of his life after death.

Always this life quest has been the dominating impulse in man and has been responsible for the creation of civilization, with much of its art and craftsmanship, its chief customs and beliefs, many of which still rule man's behavior. Architecture developed quickly into the creating of tombs and temples, employing carpenters, stone masons, artists and sculptors. Beauty in these monumental structures was regarded as essential to the attainment of immortality. The Egyptian Pyramid Texts, the earliest literature of which man has any knowledge, deal solely with the attainment of a new life after death, as do also the Coffin Texts of the Middle Kingdom and the Book of the Dead of the New Empire. All the earliest literature from Babylon, India, China and Palestine, expressing the religions of primitive peoples, is almost wholly concerned with the Giver of Life and the Story of Creation. In the Old Testament, Jehovah is described as "One who causes to live and make alive again," and elsewhere as the "Fountain of Life." The deity in all religions is so regarded. Concurrently there has always been too, with an innermost admission of helplessness, the quest for spiritual or abstract compensation—in a word, mysticism.

"In my youth," Father William replied to his son,
"I feared it might injure the brain;
But now that I'm perfectly sure I have none,
Why, I do it again and again."

How rational was Father William gaily to have acknowledged this fact, ceased troubling and made the most of it. Man today, like his primitive ancestors, is still governed and, alas, lacking critical judgment, too often perverted in this irresistible urge to survive. Thus there are sects purporting to be enlightened, who would scoff at some primitive custom of curing disease, while smugly praying over a child with diphtheria or allowing some member of the family afflicted with cancer to drift on for weeks believing that he had an error of the mind.

OR—

FORTY YEARS YOUNG?

By
R. W. SCOTT

Others, as reported recently in the daily papers, are flocking from Cleveland by bus-loads to a nearby shrine where incantations and other relics of barbaric days are being credited with driving out organic disease. To be sure, what may occasionally yield is only a functional disorder, so-called hysteria, as easily amenable to scientific treatment. With such credulity widespread in the land, no less than that exhibited by our ancestors thousands of years ago, is it any wonder that mass reactions are not always determined by intelligence or that there should be those who find it difficult to perceive much progress in man's capability to reason since the days of Pericles? We have practices or exhibitions more absurd than the athletic efforts of Father William.

"You are old," said the youth, "as I mentioned before
And have grown most uncommonly fat,
Yet you turn a back somersault in at the door.
Pray, what is the reason of that?"

"In my youth," said the sage, as he shook his gray locks,
"I kept all my limbs very supple
By the use of this ointment—one shilling the box—
Allow me to sell you a couple?"

Let me, in so far as I am capable, make an analysis of that ointment. It will cost you even less than a shilling, and at least, if found to be impotent, may contribute to a more cheerful despair.

Delving into the remote past of human history, one sees man slowly developing through the same law of natural selection as did all other living forms on the globe. He carried on for ages a struggle with hunger and cold as well as conflicts with wild animals and his own kind; there was doubtless always disease. It was indeed a rigorous environment in which his primitive ancestors lived! Through such a struggle over thousands of years, only the fit survived to propagate the race. With Nature's first slogan "Kill or cure!" how hardy must have been the first "Four Hundred." But all this time, Nature was also busy on her masterpiece, that most remarkable structure she has ever designed, the human brain. As man began to use this organ, he discovered that he could alter his environment. He had now reached the stage of civilization and had begun to supplant the racial purgation afforded by natural selection. The incorrigible offspring was bold enough to try to best his parent, forgetting the respect due a stern and venerable parent who had disciplined successfully for several million years. With the very brain she had developed for him, he proceeded to change the rules to suit his human fancies. Whether or not he can continue unmindful of his biologic obligations is a question which interested Galton, who says that "Man is far more weakly through congenital imperfections than any other animal, wild or domestic." Believing early that he was of divine creation, man therefore conceived that all human life was sacred and should be saved, the unfit as well as the fit. His humanitarian side began to be in the ascendancy, and he continued to go his way, secure in the belief that he was victorious. With the development of science, he has been increasingly successful in his efforts to control his environment and to sidestep the law of natural selection.

In the evolution of life on the globe, Nature has had little regard for the individual, but she has been careful of the species. Man has with his brain reversed the process. He is now careful of the individual at the expense of the species. Aware of the danger inherent in this policy, Herbert Spencer years ago said: "The law that each creature shall take the benefits or evils of its own nature has been the law under which life has evolved so far. Any arrangements which, in any considerable degree, prevent superiority from profiting by the rewards of superiority, or shield inferiority from the evils it entails—any arrangement which tends to make it as well to be inferior as to be superior, are arrangements diametrically opposed to the

progress of organization and the reaching of a higher life."

Those interested in racial improvement see man from two standpoints: first, as a biologic animal akin to other living forms and subject to certain immutable natural laws which have no regard for sentiment and which are, for the most part, brutal, and second, as a social animal whose individual and mass reactions are greatly influenced by sentiment and are largely humanitarian. To attain any permanent improvement in the human race without due consideration to these two points of view seems remote in the light of present knowledge.

So far as one important foe of our ancestors is concerned, we need no longer have constant fear of our enemies of the invisible world, the pathogenic bacteria whose ravages in the past brought about far-reaching changes in the destinies of peoples and of nations. Diseases such as bubonic plague and malaria were certainly important factors in the decline and fall of Greek and Roman civilizations. The late Dr. Vaughn said, "The real conquerers of the Eternal City were not the Goths and Vandals who pillaged it in the fifth century, but the Plague and Malaria which ravaged it for many centuries." History is replete with accounts of plagues and pestilences which more than once came dangerously near exterminating the human race. In the year 1034, a famine, caused largely by religious superstition, almost wiped out a nation. The most terrible disaster ever experienced by man was the bubonic plague, or black death, which appeared in the middle of the fourteenth century and killed more than 50 million people, one out of every four on the continent of Europe. Man is today witnessing the conquest of the more serious infectious diseases, bubonic plague, cholera, typhoid, malaria, yellow fever, smallpox and others; it will probably be only a short while until such diseases as diphtheria and scarlet fever will be rare. With such conquests, millions of lives have been saved. Many more babies and children grow up to increase by nearly twenty years the average life span at the present time. It would seem that we might all look forward to a ripe old age and complacently enjoy the fruits of our labor with the knowledge that we have conquered most of the diseases that cut short the lives of our forefathers. But a new problem presents itself. Having avoided fatal accidents early in life, we come along to the fourth or fifth decade and find that the human machine is beginning to show signs of wear and tear. Here and there the arteries are aging, and some of the most vital organs no longer receive an adequate supply of blood. The foe is no longer without, but within, and the problem of conquest is an entirely different one from that presented by the infectious diseases. The problem now is that of arterial degeneration, which is called arteriosclerosis. This is not a new condition. It is found in Egyptian mummies of the first dynasties, and one may even assume that, along with hardship and infectious diseases, it took its toll of prehistoric adults. Physicians have long recognized that it is so intimately associated with, and so closely parallels, the aging process that it may almost be interpreted as synonymous with it. Dear old Father William, for all he is a glorious picture of normal old age, doubtless would not prove entirely exempt. Today one is not surprised to find arteriosclerotic arteries in the aged. But to see the process appearing in the early forties and fifties and apparently increasing, so that it is now by all odds the most frequent cause of death, is the modern aspect of the problem. Is it any wonder, therefore, that the medical profession as well as intelligent laymen everywhere should be interested? Even a casual glance at the mortality statistics for the registration area in America covering the past thirty years shows a striking diminution in deaths from infectious diseases, such as diphtheria, pneumonia and tuberculosis. For example, in 1900, tuberculosis killed more persons than any other disease. Now it occupies the sixth place as a cause of death, sending heart disease up to first place.

The Life Span Changes

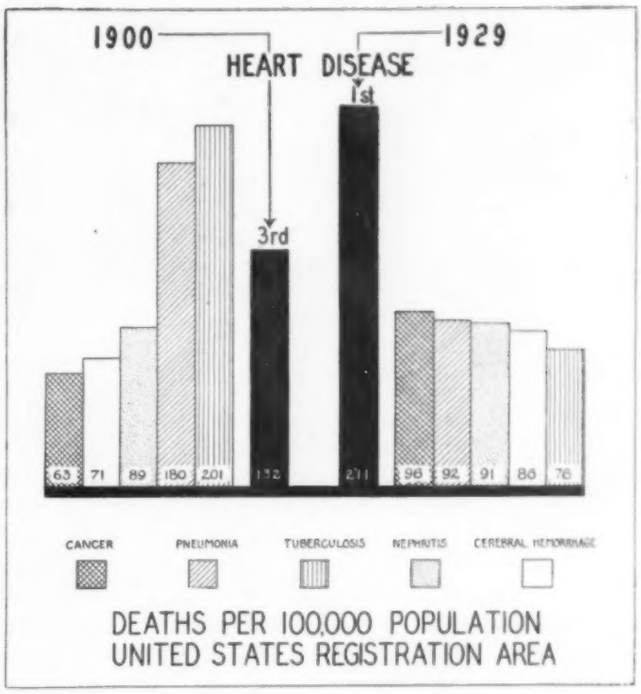
It is with just pride that man points today to the progress made in the relief of human suffering and to the fact that people *en masse* are living longer than ever before. Owing chiefly to the high mortality in infancy and childhood, the average life span of ancient peoples was 35 years. This increased to 40 years in the eighteenth century, and from then until now about 20 years have been added. In combating disease, both epidemic and endemic, present-day methods such as scientific infant feeding, child hygiene and others have eliminated many of the vicissitudes of early life, so that the child born today has a chance to live for nearly 60 years. Insurance companies today can gamble and win on the average child living to the age of 60. Two hundred years ago, however, the insurance rates would have been higher since the average duration of life was 40 years. Now the question arises: Can the present-day adult who has attained the age of 40 look forward to living much longer than his progenitors of the same age? The answer is *no.* Indeed, from a critical analysis of recent mortality statistics, Professor Forsyth of Dartmouth concludes that adult expectancy is actually decreasing in America at the present time.

The accompanying chart shows that heart disease is the chief barrier to longevity at present; in fact, more deaths occurred from heart disease last year than from any other cause. It is now verily "captain of the men of death."

Looking into this question a little more carefully, one finds that there is no increase in mortality from heart disease in young people. Rheumatic fever or, as it is popularly known, inflammatory rheumatism in childhood is responsible, in this latitude, for the vast majority of damaged hearts and deaths from heart failure in people under 30 years of age. This disease, however, must be placed in the infectious group and does not have any bearing on the problem, since rheumatic fever is no more prevalent today than formerly. What then is the cause of the increase in the number of persons either invalided or dead of heart disease? One finds that these people are most often beyond 40 years of age and that the underlying cause of their heart disease is deterioration of the arteries, that hardening and thickening of the blood vessels that has been known for a century as arteriosclerosis. This process, involving the small microscopic vessels, is intimately associated with a persistent elevation in blood pressure. The heart is called on to do more work in maintaining the pressure, it enlarges and sooner or later becomes exhausted. Thus heart failure in the course of high blood pressure is the commonest type of heart death in persons past 40. Another condition that offers a serious impediment to the heart and is responsible for the next largest number of heart deaths is known as coronary disease, an arteriosclerotic decay of the coronary arteries, the two vessels which supply the heart wall with blood. As one approaches the later decades of life, these arteries, like others in the body, become involved by arteriosclerosis. This process narrows the vessels and thus impairs the blood supply to the heart. At times there may be a sudden interruption from a thrombus or plug forming in a diseased coronary artery. Then a sudden heart attack, usually with severe pain in the breast or upper part of the abdomen, results. Such attacks are responsible for the vast majority of the sudden deaths of men who have thought they were in their usual health.

A Man Is as Old as His Arteries

Although such deaths are often erroneously ascribed to acute indigestion, they have nothing to do with the stomach or intestines. No disease of these organs can kill a person within a matter of minutes. Heart failure resulting from high blood pressure, which is in turn associated with arteriosclerosis of small arteries throughout the body, and the type of heart failure referable to coronary disease, account, for the most part, for the steadily mounting incidence of heart deaths beyond 40. Underlying both conditions is the problem of arteriosclerosis. This process, which often affects the brain arteries, leads to a progressive mental deterioration and senile decay and to the familiar picture of apoplexy and paralysis. Again this process



of vessel decay may involve chiefly the blood vessels of the kidneys and cause death from insufficiency of these organs, often known as Bright's disease.

I think it is perfectly apparent from these facts that the chief concern to the majority of persons as they grow older is the wearing quality of the blood vessels. It is this, more than any other one factor, which is determining individual life expectancy at the present time. Long ago it was said that a man is as old as his arteries. This truth is more apparent today than ever before. But, what can be done about it? What is the solution? Naturally one turns to medical science. With its brilliant conquests over the deadly scourges, the infectious diseases, still freshly in mind, one looks for equally startling results in the case of arteriosclerosis. It is difficult to realize, however, that the problem is fundamentally different from that presented by the infectious diseases, in which medical science deals with a living organism that has gained entrance into the human body. The conflict between the germ and the body produces a certain clinical picture which is recognized as a specific disease. The invading organism may be recovered from the invalid, and its characteristics may be studied in the laboratory. When it is transferred to animals, one may learn still more about its behavior. Finally we become intimately acquainted, as it were, with our enemy and know all his tricks. We are now prepared either to exterminate him or to protect ourselves against his ravages. This, briefly, is the story of man's conquest of most of the infectious diseases.

[NOTE.—In part 2 of this article, which will appear in the February issue, Dr. Scott will discuss some of the causative factors in arteriosclerosis.]

FISHING
In Food and Air Passages

PREVENTIVE medicine has saved millions of lives; it has enormously reduced infant mortality; it has practically eliminated typhoid, smallpox, malaria, yellow fever and many other preventable diseases; it has rendered possible the building of the Panama Canal. To go on through the long list of its accomplishments would be tiresome. Railway executives surround the traveler with every safeguard; industrial executives protect employees by every possible means; national safety councils are held annually for the study of accidents and means of preventing them; everywhere "safety first" is the slogan of the day. While all this has been going on, insufficient attention has been paid to the fact that children's lives are needlessly endangered right in their own homes by a certain class of preventable accidents. Mother thinks that the safest place in the world for the baby is in her arms, and in certain respects this may be correct; yet the dangers herein referred to may lurk right there. Similar dangers concern adults.

The development of bronchoscopy and esophagoscopy has led to the statistical study of the causes for the lodgment of foreign bodies in the air and food passages. These studies have revealed the rather startling fact that almost 90 per cent of the cases have been the result of a preventable accident, and in 87 per cent the chief cause was some form of carelessness.

A baby, 9 months old, was brought to the clinic with an open safety-pin stuck in the esophagus, half way between his mouth and his stomach. While the mother had been undressing the baby he had taken one of the pins she had laid beside him on the bed. The mother was asked to undress the baby so that an x-ray examination could be made. She started to do so. She put two of the safety pins in her mouth and others on the bed beside the baby. On being asked whether she always held some of the pins in her mouth when undressing the baby, she answered that she supposed she did. Think for a moment what you would do if you wanted to teach a baby to take up a safety-pin from the bed and put it in his mouth. The first thing you would probably do would be to show the baby how to do it; you would pick up one of the safety-pins and put it in your mouth. When a baby sees his mother put safety-pins in her mouth he naturally thinks that is what safety-pins are for.

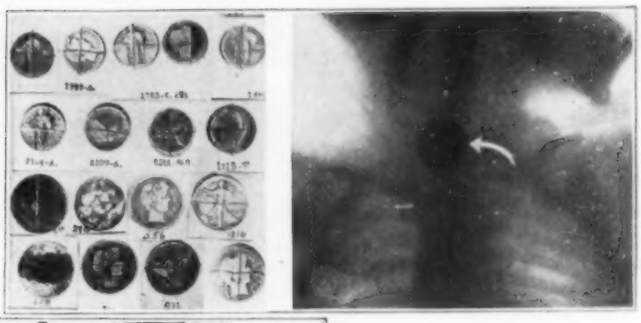
That this accident is not rare is shown by the fact that in the Chevalier Jackson Bronchoscopic Clinic Collection in the Mütter Museum of the College of Physicians of Philadelphia there are 230 safety-pins that have been removed from the air and food passages.

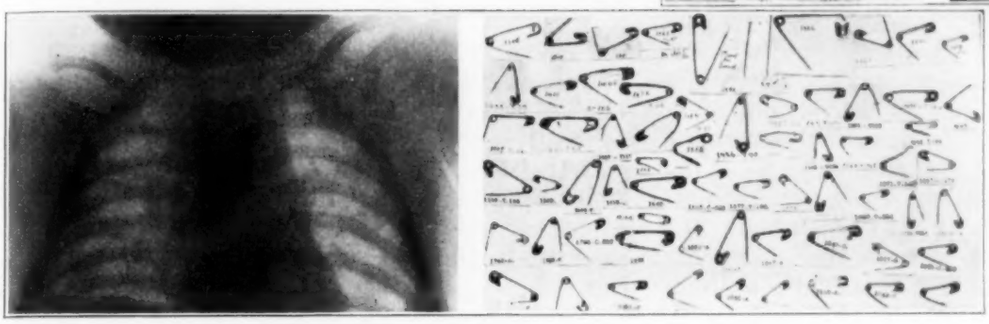
Three precautions can be taken to prevent these dangerous accidents: 1. Never set a bad example to others, especially children, by

A young surgeon and nurse, having undergone operations, are about to practice on their odd "patients." Children are mimics. Elders, beware, for they imitate the bad as well as the good.

D. Sargent Bell

By
Chevalier Jackson
and
Chevalier L. Jackson





Many a strange haul is made when the physician angles for foreign bodies in the air and food passages of adults and children. Coins and safety-pins are among the most common catches.

putting safety-pins in the mouth. 2. Make a habit of closing all safety-pins before laying them down, for a closed pin involves little danger. 3. Keep safety-pins out of the reach of children.

Children are actually taught through imitation to put other pins in their mouths, too. For example, a girl, aged 6 years, came to the clinic because her physician had found a glass-headed shawl-pin in her lung. When asked what she was doing when she "swallowed" the pin, she answered that she was dressing her doll. By questioning the mother, it was learned that the child in dressing her doll was doing precisely as the mother did when dressing the child. This is only one of many cases in which the fundamental cause is the bad example set by the parents.

It seems strange that any one should fail to realize how filthy a coin becomes because of the filthy hands through which all small coins pass. In addition to the uncleanliness there are the infective risks of germ-laden hands and the foreign-body risk of the coin becoming impacted in the esophagus. In order to enter the air and food passages, the coins must first have been put into the mouth. On taking coins out of their purses, women frequently put them in the mouth and thus set a bad example to children. In several cases it was learned the child was holding a coin in his mouth while on his way to the end of the car to get a clean drinking cup! Think of it! The law requires railways to supply a service of individual cups because of the infective risks; the mother puts a filthy coin in her mouth and then gives it to her child to put in his mouth to buy a clean cup.

Mothers sometimes give the baby a button or even a box of buttons as a plaything. This is exceedingly risky, for many buttons have been found in the air and food passages of children.

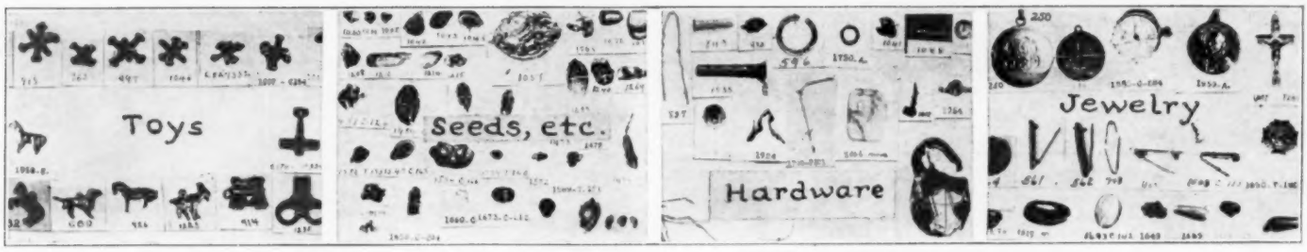
It is also carelessness to give to a child a small toy or a large toy with a loose small part. A great variety of small articles, including jewelry, hardware and foods, such as dried beans, coffee grains and kernels of corn, have been removed from the air and food passages of children who had been using these items as toys and not for the purposes for which the articles were originally intended.

Candy manufacturers sometimes coat small metallic toys with candy. This is an exceedingly dangerous practice, and if it should become general there would be a large number of children who would suffer by inspiration or swallowing of the metallic toy after the dissolving of the candy.

Sleeping, dozing, running, jumping, laughing, crying and sobbing all render it dangerous to have in the mouth any substance that could become a foreign body if it should go "down the wrong way" or even the right way. Artificial teeth have been swallowed when the patient was dozing; seeds and pulp have been inhaled into the lungs by children who were eating fruit while playing; a marathon racer inhaled a piece of coal he was rolling about in his mouth to lessen thirst; chewing gum and also nut kernels from cake have reached the bronchi as a result of laughing and crying.

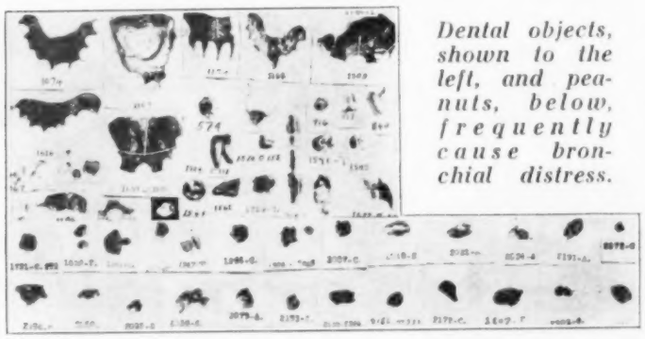
There is a severe and dangerous form of bronchitis caused by peanuts; but this occurs only when by accident they get "down the wrong way" into the bronchi. One might think this is a rare accident, but statistics of the bronchoscopic clinics show that it happens so often and the children are so near death's door when they come to the clinic that mothers need to be warned.

The motto, "Don't give nuts or nut candy or nut cake to babies," should be hung up in every child's home.



What goes into children's mouths? Toys, jewelry, seeds and hardware, among other things, have been fished out of the food passages.

Nuts have a certain food value, but they must be thoroughly masticated. A baby, however, has no molars with which to masticate anything. Mother does not think of this when she gives the children, including the baby, a piece of peanut candy. When the baby has dissolved the candied sugar, the peanut kernels remain on the back of the tongue. He cannot chew them because he has no molars, and having none of these grinding teeth he has not yet learned to grind up solids. What usually happens is that he chokes and strangles and takes a deep breath. A fragment of nut kernel goes into the bronchi and baby becomes ill with "peanut bronchitis." This is a severe inflammatory reaction set up in the mucous membrane of the bronchi by the presence of a vegetal substance. Most frequently the substance is a peanut, but the same serious disease arises from the accidental inhalation of other nuts, a dried bean, pea, kernel of corn, watermelon seed, orange seed or fruit pit. There have been hundreds of such cases at the bronchoscopic clinic. In about



Dental objects, shown to the left, and peanuts, below, frequently cause bronchial distress.

2 cases in 100 the vegetal substance is coughed up; in 98 per cent of the cases the baby dies if the peanut kernel is not removed.

It is amazing to note in how many of the cases of foreign body in the air and food passages the primary cause was carelessness in the preparation or serving of food.

Carelessness in the preparation of food is obvious when small fragments of bones are served in soups, stews or gravies. Of course, the cook or the dealer cannot be blamed in case of bones in fish or small birds, which are necessarily served with the bones normally present; but when bones are reduced to minute particles because the butcher has used the cleaver instead of the saw and when the cook fails to remove the bone splinters, it is carelessness on the part of both butcher and cook. When the person eating the food gets one of the spicules of bone in his esophagus, it may be said that he is guilty of contributory carelessness in eating hastily or in not searching his food for bones before eating. When, however, a person gets a bone in the esophagus while eating sweetbread cutlets or croquettes, it may be said that the carelessness is wholly the fault of the cook or, possibly, of the butcher.

Bones afford the greatest number of examples of carelessness in preparation of food, as well as of hasty gluttonous eating. The clinic has had 377 patients with bones lodged in the air and food passages. In many instances the patient was seriously ill. Almost all the cases of bones as foreign bodies occurred in adults who were eating rapidly. The chicken bones occurred mostly in women. It seems certain that a bone could not get into the lungs or stick in the throat if bones were eliminated from the food in preparing and serving it. In cases where this is impossible, as with fish and small birds, slow careful eating and careful search with the fork for bones on the plate and with the tongue for bones in the food that has been taken into the mouth should prevent all possibility of a foreign body accident.

Carelessness in the serving of foods was shown by records of the bronchoscopic finding of watermelon seeds, orange seeds, cherry pits, prune stones, egg shells, nut shells and the like in the bronchi of children. These substances made the children seriously ill. No child should be served with watermelon without first having the seeds removed. Orange juice and all fruits, whether raw or cooked, should be carefully freed from seeds, pits and skin before serving. Almost all such cases have occurred in children.

Bits of wire that find their way into cakes from egg beaters represent carelessness in the preparation of food. A candle holder from a birthday cake was carelessly left attached to a piece of cake given to a child.

Nearly every one eats too fast for the good of his health. All food should be thoroughly masticated and insalivated. Even milk ought to be "chewed"; that is, it should be sipped, and each sip should be rolled around in the mouth to mix

it thoroughly with saliva before it is swallowed. If this were done with all foods, then bones, oyster shells, egg-shells, cake-candle holders and the like would be discovered in the mouth, and their sticking in the throat or passage down into the esophagus or a bronchus would be prevented. To the habit of hasty gluttonous eating may be attributed hundreds of foreign body accidents. In one instance a lady hastily gulping raw oysters felt what she thought was a fragment of shell sticking in her esophagus. When the foreign body was taken out, she was amazed to see that it was the cap off a catsup bottle. It is illogical to deny that she must have been a bit hasty in her eating when she failed to detect the presence of the bottle cap in the catsup in her mouth. Slow eating, thorough mastication, careful search for bones, seeds, shells or other foreign bodies, on the plate with the fork, and in the mouth with the tongue, would eliminate the danger of a foreign body accident. Persons wearing artificial dentures require longer mastication than if they had natural teeth. Slow careful eating is also best for general health. Hasty gluttonous eating is usually learned in childhood. Children should be taught by example as well as by precept to eat slowly for health as well as for good manners.

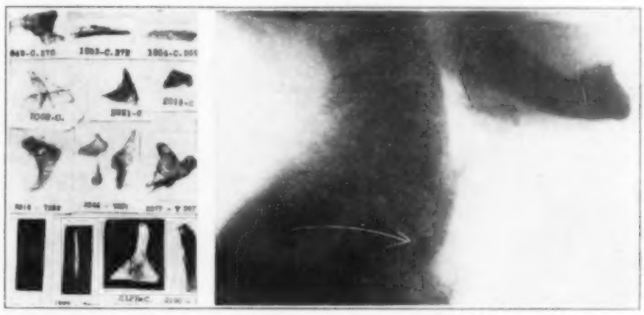
A knowledge of what to do and what not to do in case of foreign body accident is invaluable:

1. Do not get excited.
2. Do not ask the patient what he choked on or any other question that will lead to an effort to answer.
3. Do not pound the patient on the back; to do so only interferes with his possibly successful efforts at spontaneous riddance.
4. Do not dig into his mouth and throat with your fingers; you would be almost certain to push the foreign body deeper.
5. Do not give cathartics or bulky food on the supposition that the foreign body has been swallowed.
6. Do not assume that the foreign body has not gone into the bronchi because all the symptoms disappear. After the initial choking and gagging, a safety-pin or a tack may be in the bronchi for a month without a single sign that would lead one to suspect its presence. No one can feel a tack in his own lung.

The patient should not become alarmed. If the breath seems shut off, he should not try too hard to breathe; the harder he tries the less he will succeed; he should take it quietly and easily until breathing is restored.

First aid to a patient who has choked and gagged with anything, even food in the mouth consists in the following:

1. Remain calm.
2. Quiet the patient's fears and give him a chance to expel the substance and to get his breath.



Bones are frequently swallowed or inspirated during gluttonous eating. The x-ray picture above shows a bone which became impacted in the throat during a hasty meal.

3. Observe the symptoms. Note particularly (1) whether the patient gets blue or pale in the face; (2) whether he has attacks of coughing; (3) whether he has a wheeze heard at his open mouth when he breathes. The family physician will want this information.
4. Call the family physician. This should be done immediately if the symptoms seem severe, and it should never be neglected, no matter how well the subject of the accident may seem to be. The physician will have the necessary x-ray and other examinations made.
5. Never forget the incident of choking and gagging with food or any foreign substance in the mouth or the accidental swallowing of any object. Make a note of it in a diary if one is kept. Months or years afterward a medical attendant may want to know about it.

CANCER

By
Alson R. Kilgore

CANCER is rapidly assuming the proportions of a plague of civilization, causing today about twice as many deaths per million people as it did forty years ago. Few of us are so fortunate as to avoid contact with it at some time among friends or relatives, and most contact with it is tragic.

Cancer is, however, not a new disease. The Egyptians knew it 1,500 years before Christ. The Greeks and the philosophers of the middle ages speculated about its cause and even made some attempts at treatment. It is a matter of interest to note that in the second century, at the time of Galen, the first dietary treatment for cancer was advised, the thought then being that vegetables should be taken in abundance, but that walnuts should be avoided. By what line of reasoning these conclusions were reached is not clear. Probably, however, the philosopher who advised against walnuts had grounds as good as those on which certain experts today still plague us and confuse the public mind with foundationless advice about diet.

It is also interesting to note that Leonidas of Alexandria at about the same time removed the breast with a cautery for cancer and went so far as to remove the lymph glands of the arm pit also, thus anticipating the modern operation by more than 1,600 years.

The Strange Ideas of the Ancients

Of course the ancients had curious conceptions of the nature of cancer, regarding it as an abnormal concentration of "black bile." It was not until the invention of the microscope in 1592 and especially of the achromatic, high-power lens, as late as 1824, barely a hundred years ago, that it became possible really to study the disease; and it has been only since 1860, when Virchow caught the picture of cell life, that it has been possible to build up an intelligent conception of cancer.

Since cancer is a disease of cells, some knowledge of cells and their behavior is essential to its comprehension.

The cell is the unit of animal and vegetable life. Each cell is a complete organism in itself; in fact, some independent animals consist of a single, free-floating cell. The cell has reproductive capacity. Growth and repair of the body are carried on by the reproduction of cells. The ordinary method of reproduction is the division of the parent cell into two daughter cells. When the daughter cells have reached adult size, they in turn divide and complete another cycle.

Animal cells undergo remarkable modification in accordance with the functions they are to perform. A cell originally $\frac{1}{2,500}$ inch in diameter may develop a tail several feet long, the essential part of a nerve trunk. Another cell will take on the function of secretion of milk, mucus or other substances. Still others embed themselves in lime salts and make up the structure of bone. Once a line of cells has taken on such special forms and functions, the descendants of these cells, if any, retain in general the same form and functions. In the case of the abnormal cells of cancers, it is common to find characteristics which identify them as descendants of particular types of normal cells.

Production and Reproduction

Each animal begins as a fertilized egg cell, which divides first into two, then four, then eight cells and so on until a ball of some size is built up. At this stage the cells all look alike; yet in the further growth of the embryo one can see, as previously mentioned, that one group of these cells develops into a highly complex nervous system and another group develops along totally different lines to become the skeleton.

This process of the development of cells goes on with such astonishing regularity that it is taken for granted. Each human being has ten fingers, two eyebrows, in fact a structure so similar to his fellows that a 1,200 page anatomy book can be filled with descriptions of details which are practically constant. And, what is equally important, when one reaches maturity all the fingers stop growing at once. Whenever one produces a surgical wound, one counts with confidence on the reproduction of new cells from those at the edge of the wound to repair the defect and one also counts on this production of new cells ceasing as soon as repair is complete.

If one but stops to think, it is self-evident that all these processes of cell development, of growth and of repair go on of necessity under the influence of some definite mechanism of control. Yet no one has any adequate conception of the nature of that control. It can be interfered with to some extent by withholding certain vitamins or by disturbing internal secretions of thyroid, pituitary and other glands so that some knowledge of the nature of the control mechanism is apparently on its way, but for practical purposes the world is yet in ignorance of why cells grow and reproduce as they do.

Every one is familiar, however, with occasional gross accidents that occur when control is imperfect. A rare individual is born with six fingers. Occasionally, more repulsive monsters appear. Why these accidents happen is not known, and there seems no good reason why one should know how control is occasionally lost until one knows more about what the normal control is.

In an analogous way, microscopic accidents occur by which control is lost over one cell or small group of cells. The cells so uncontrolled retain their reproductive capacity and do reproduce themselves, often with remarkable rapidity, so that soon a mass of them is built up large enough to be seen or felt. And such a mass of uncontrolled cells, growing without normal relation of structure or function to the surrounding body tissues, is called a tumor. Again, the nature of the accident by which the parent cells of the tumor were lost to proper control is not known, and again, there appears no good reason why the accident should be understood until the normal control is understood. How could one understand why a locomotive leaves its track by accident if one did not know what the track is or what normally keeps the locomotive on it?

Cause of Tumor Formation Is Unknown

In brief, the final cause of tumor formation is unknown, and it is unlikely that it will be found until infinitely more is known about normal life processes.

Tumors are first to be divided into two great groups, the so-called benign and the malignant. Benign tumors grow locally only, by pushing aside the surrounding normal tissue; they do not spread to other regions of the body, and they cause trouble in general only by pressure and mechanical interference with neighboring organs.

Malignant tumors grow rather by invasion and destruction of surrounding tissue and have the unique capacity of separating off pieces of themselves, composed of intact tumor cells, which are carried by the blood or lymph streams to other regions of the body where they lodge, continue to reproduce themselves and set up new tumors like the parent growth. This phenomenon of scattering is called metastasis and is an almost universal characteristic of malignant tumors sooner or later in their existence.

Malignant tumors are again divided into groups according to the normal tissue from which they arise. There are malignant tumors of skin, bone, breast glands, intestinal glands, lymph tissue and fibrous and muscle tissue. The word cancer, strictly speaking, refers to malignant tumors of skin, mucous membrane and glands, but is commonly associated in the public mind with the whole group of malignant tumors.

Now, even though science is ignorant of the final actual cause of cancerous growth, certain conditions under which it is liable to arise are known from experience. There are well established predisposing causes, and these are well worth noting for many of them offer opportunity of prevention of cancer, which is always better than cure.

Predisposing Causes of Cancer

1. Whether a single bruise ever results directly in cancer is still doubtful. Probably under certain conditions, cancers appear that would not have arisen had not some single injury occurred, but the vast majority of cancers arise without such injury.

Long standing, repeated, minor injury, however, is a common and well recognized predisposing cause of cancer. The list of examples is long and imposing, and apparently the injury may be mechanical or chemical, may be caused by heat or may arise from chronic infection, as the following classifications will illustrate: cancers of the lip from the heat, the mechanical irritation or the chemicals in the smoke of the old-fashioned clay pipe; cancers of the tongue from ragged, infected teeth or of the gum from ill fitting dental plates; cancers of the skin or of the stomach arising occasionally at the margins of old ulcers; cancers of the neck of the womb in old, infected tears following childbirth; cancers of the bladder in workers long subjected to certain aniline dyes; cancers of the esophagus or gullet from habitual drinking of hot liquids; cancers of the skin from long exposure to certain distillation products in the coal-tar and shale oil industries, and cancers of the nasal cavities from long standing sinus infections.

The possibilities for prevention of cancer are obvious: careful dentistry in the mouth, adequate attention for the torn cervix of the womb, cleaning up chronic nasal sinus infections and protection of workers in hazardous industries.

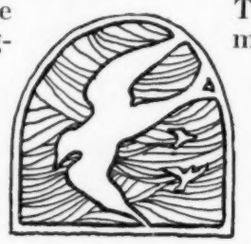
2. Another source of cancers lies in previously existing benign abnormalities which are known to break down into malignant tumors.

The most notable example of this group is the black mole. Dark brown or black birthmarks are exceedingly common, and most of them are harmless; but one type that not uncommonly gives rise to extremely malignant tumors is the single dark mole, raised sharply above the normal skin, with flat surface and without hair. When this mole becomes malignant, it spreads so promptly that all possibility of cure is lost before the original mole shows any change appreciable to the naked eye. These cancers can be prevented only if such moles are com-

pletely removed before they have had opportunity to become malignant.

Certain other benign abnormalities show the same tendency toward malignant change, a noteworthy example being the polyp of the large bowel.

3. A discussion of the circumstances in which cancer arises would be incomplete without reference to the germ theory of its cause. With the development of a knowledge of disease-producing bacteria in the last century, it was only natural that search should be made for a specific germ as a cause of malignant tumors. The idea is a hard one to give up, but many of the foremost students of cancer feel strongly that it must be given up.



In the first place, long and intensive search for a causative germ has been unsuccessful. An impressive number of organisms have been "discovered" only to be discarded one after another, the last one to receive wide newspaper notice being the ultramicroscopic virus of Gye and Bernard.

Certain immunities to cancer have been found in experimental animal work, but they are to be explained as immunities to foreign tissue and not to bacteria.

Quite aside from these facts, a consideration of the nature and behavior of cancer lumps as compared with the lumps of inflammation reveals divergencies, as pointed out by Dr. James Ewing, so fundamental as to indicate clearly that cancer is not a germ disease.

Points of Similarity and of Dissimilarity

Compare, for instance, a cancer lump and one that is due to tuberculosis. Both produce a swelling or an ulceration, and the two may be difficult to distinguish by the appearance they present to the naked eye. In each case, swelling of the neighboring lymphatic glands appears as the disease progresses, and the process in the lymph glands is found to be the same as that in the original lump. To casual impression the processes are exactly similar, but a closer study reveals the following differences:

1. The cells forming the lump of tuberculosis are normal body cells of the types thrown out in defense against an invading organism. The cancer lump is composed of cells which may resemble the normal cells from which they are descended but which are liable to be definitely abnormal in their appearance as well as in their behavior.

2. The tendency in the lump of tuberculosis is toward cell death—the defending cells are killed by the invading germs. The tendency in the cancer lump is toward abnormally active life and growth. The cancer cells are killed only if growth of the tumor is so rapid as to outdistance its blood supply.

3. In tuberculosis, spread to the neighboring lymph glands is accomplished by the transfer of bacteria which then cause a lump to be built up by the cells of the lymph gland. In cancer, spread is accomplished by the transfer of tumor cells from the parent growth; the tumor cells then build a new lump by reproducing themselves, not from cells found where they lodge. These are fundamental differences and make it seem extremely unlikely that cancer will be found to be caused by bacteria. If not a bacterial disease, it should not be contagious and, as a matter of record, no doctor, nurse or attendant has ever "caught" cancer.

Furthermore, if cancer is not a germ disease the discovery of a curative serum is not to be looked for. Specific serums are made by the injection of disease germs into an animal, allowing the animal to build in his blood a resistance and then using the serum from the animal's blood to carry over resistance to human beings. Since cancer is not a germ disease, this form of treatment is, of course, impossible. The sooner the medical profession and the laymen learn to look with critical skepticism on the announcements of serums for cancer that appear so often in the public press, the sooner it will be possible to proceed with an intelligent attack on cancer and the less often will patients with early cancer refuse operation and become incurable while trying the latest serum.

Remembering that cancer begins as an accident in the growth and development of cells whereby a line of propagating cells is started, out of control, one must realize that the disease is local in its beginning—the same accident does not happen in several places at once—and realize also that if every cell of the cancer line can be removed from the body or destroyed, the line will be cut off and the disease will be cured. These ideas are proved correct by experience and they provide the two fundamentals of successful attack: (1) early discovery of the disease, before it has had time to spread from its point of origin and scatter so that it cannot be reached, and (2) complete removal of the growth or its complete destruction.

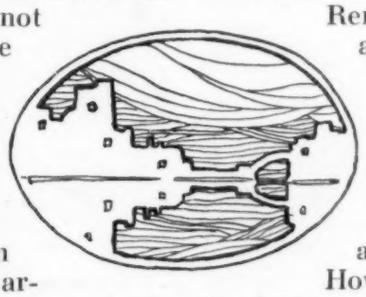
Present Methods of Treatment

At the present time, for practical purposes the growth can be cut out or burned out surgically, or it can be attacked with radium or the x-rays. Both methods have their distinct fields of use. The destructive effect of radiation (either from radium or from the x-ray tube) is not limited to cancer tissue but may cause serious harm to normal tissues. It is possible to employ radiation only (1) if the cancer happens

to be susceptible, so that a dose small enough to be safe for surrounding normal tissue will be effective, or (2) if the cancer is so situated that more radiation can be placed into it than into the normal tissue. Thus surface cancers lend themselves to radiation much more readily than do growths which must be reached through normal tissue.

Again there is great variation in sensitiveness to radiation among various types of tumor and even among individual tumors of the same organ and type. The decision between surgery and radiation treatment (or some combination of these methods) is one for the trained expert to make. Suffice it to say here that the surgical operations for cancer have been completely standardized during the past half century, and the use of radium and x-ray have more recently seen important developments, so that the possibilities of each method are becoming well understood and the choice is one which can be made with increasing certainty.

I should like to point out one difficulty in the standardization of any treatment for any type of cancer; namely, the length of time involved. The results of treatment are not immediately apparent. In acute conditions, such as appendicitis and perforated stomach ulcer, the patients either recover or die within a short time, so that the results of any method of treatment are at once apparent. The cancer patient may recover from his operation, however, and be apparently well for years, only to have hidden, microscopic remains of the disease become active and take him off. This may occur after many years, though the vast majority of cancers that recur do so within five years. One cannot, therefore, estimate the value of any treatment until at least that time has elapsed.



A Few Cases Do Not Tell the Story

Furthermore, results can be judged only by the percentage of a large group of patients remaining well after five years. Thus, it has taken ten years or more to decide that, for most cases, radium is better than operation in cancers of the cervix of the uterus. First the radium had to be tried in otherwise hopeless cases; then gradually, with increasing experience of good results, it was applied to earlier cases, and finally large series of cases were treated, followed for five years and the results compared with similar cases subjected to operation. This requires time and money. The work of following for years and keeping records of a large group of patients is costly, but it has given invaluable information.

Consider, for example, cancer of the breast. This disease tends to have its first spread to the lymph glands of the arm pit, and the standard operation today involves removal of the breast and of these glands in one mass. A study of results five years after operation in a large number of cases has disclosed the following facts:

1. The complete operation must be done at one time. It will not do to remove a lump from the breast, spend several days examining it and, having determined it to be cancer, go on to removal of breast and glands. If microscopic examination is needed, it must be by immediate "frozen section" while the patient is on the operating table.

Early Cancer Is Curable

2. If, after removal of breast and glands, no spread of the disease can be demonstrated, the patient has an 80 per cent chance of permanent cure. If one gland is involved, her chance is 20 per cent instead of 80 per cent, and if several are involved her chance is less than 5 per cent.

This is only one fair example of the general principle that early cancer is a definitely curable disease and late cancer is decidedly hopeless.

How then can one recognize it early enough for successful attack?

Remembering again that cancer begins as a local accident and first builds up a mass of tumor cells at its point of origin, the earliest sign of any cancer should be a lump. It is worth noting that pain is not a characteristic of early cancer. The beginning cancer lump is almost without exception painless. How many women feel lumps in the breast and pay little attention because of lack of pain? Unfortunately, pain is a good sign with breast lumps; the painless lump is the dangerous one.

Now, if the painless lump occurs on or near the surface of the body or in the mouth, the chances of its early discovery are good, and consequently the cancers in these locations—skin, lip and breast—furnish most of the cures.

If the lump occurs in one of the body cavities opening directly to the outside—in the uterus, bladder or lower bowel—it may not be seen or felt so early, but it may call attention to itself fairly promptly by bleeding or an abnormal discharge. This group comprises next in order the greatest number of curable cancers.

If, however, the lump is located inside the body—in the stomach, liver, kidneys or pancreas—it cannot be seen or felt, and cannot give rise to any visible discharge. The patient cannot be aware of its presence until it has grown sufficiently to cause pain by nerve involvement or produce obstruction to the stomach, the bowel or the bile ducts. By this time, dissemination has usually taken place, and these cases form the least hopeful group.

The early cancer signs, therefore, that should be familiar to every one are those of surface

cancer and of cancer in the accessible cavities. These signs are not difficult to carry in mind. In summarizing these, I shall include certain conditions which are not cancer but which may lead to cancer and should be dealt with to prevent cancer.

Conditions Which May Lead to Cancer

1. On the skin—chronic ulcers; the horny warts (not the seed warts of youth) occurring on the face and hands of older people, when they show a tendency to enlarge, become raised or hardened at the base or to be moist and scab; single, dark brown or black, raised, flat surfaced, nonhairy moles.

2. On the lip—a hard lump or wart at the skin border, especially if it is ulcerated or scabbing.

3. In the mouth—any open sore that persists. This does not mean the ordinary "cold sore" which heals ordinarily within a few days. The ulcer that resists treatment and stays unhealed three weeks or more is the dangerous one. If these were properly and promptly attended to, death from cancer of the mouth would rarely if ever occur.

4. In the breast (of woman or of man) any lump. Breast lumps ought not to be discovered accidentally, as most cancers are, after no one knows how long a duration. The breast should be felt occasionally in the bath, passing over it the flat of the soaped hand. By no means all breast lumps are cancer—three out of four today are harmless—but the inexperienced patient cannot trust herself to decide the nature of a lump, and with a prospect of 80 per cent curability for early breast cancer, she ought to run for examination the day the lump is found.

5. In the uterus, cancer begins in the lining membranes and commonly bleeds before it has grown even through the wall of the organ. Any irregular bleeding, especially about and after the menopause, may be due to cancer. It is due to some other harmless cause in the majority of cases, but the patient cannot trust herself to decide the presence or absence of cancer.

6. In the bowel, approximately 75 per cent of the cancers arise in the lower intestine. Here also, they begin in lining membrane and are liable to bleed early. Bowel bleeding is often due to hemorrhoids, but it is criminal to assume that this is the cause without careful examination. The last two groups of cancers, those in the uterus and bowel, are commonly curable if attacked early. They are so often hopeless because bleeding has been allowed to go on for from six to twelve months before examination. I hesitate to mention these signs of possible early cancer because so often the impression is given that when they occur they always mean cancer. Nothing could be farther from the truth. Many skin blemishes are carried through life with no risk of cancer. Sensations of smarting or irritation of the tongue have caused much needless anxiety. (I have seen patients actually devote their entire lives to unnecessary worry about a smarting tongue.) Three out of four lumps in the breast are harmless, and fourteen out of fifteen times, abnormal bleeding from the uterus is due to something other than cancer. The point I wish to emphasize is that if one is to catch cancers early enough to cure them, one must have prompt investigation of any of the conditions noted.

Finally, a word as to the present trends of study about cancer. I have mentioned the standardization of surgical treatment. This has been carried to a high degree. It is known quite well what operation should be done and what chances of cure are offered for all the commoner varieties of cancer.

The same standardization has been and is being developed for the radiotherapy of cancer. The 200,000 volt x-ray is now about 10 years old in America and its use is becoming more intelligent. The methods of use of radium are even today undergoing radical change. The use in selected cases of a large dose of radium applied at a distance of from 2 to 3 inches instead of directly against the growth or the overlying skin and heavily screened to filter out the softer rays is a material and far-reaching advance.

Furthermore, the medical profession is coming in this country to recognize, as the Europeans do, that cancer is no longer one disease to be treated always in one way but many diseases requiring all the expert knowledge and experience available and special cancer hospitals are being developed in which the treatment of each case is discussed by a physician, a surgeon, a roentgenologist, a radium expert, a pathologist and other specialists as well. Only so can the best results be obtained.

Research Is Making Rapid Advances

In the field of laboratory research, endless work has been done in the observation of spontaneous animal tumors, transplantation from one animal to another, tissue cultures outside the living body and artificial production of cancers by certain repeated irritations. At the present time, the most promising work is along chemical lines—studies of the utilization of fuel and oxygen and of waste products thrown off by cells in their life processes.

Warburg in Germany with his associates has apparently demonstrated that the cancer cell ordinarily differs quite fundamentally from normal adult cells in its use of sugar. It prefers to ferment sugar to lactic acid without using oxygen rather than to burn the sugar to water and carbon dioxide.

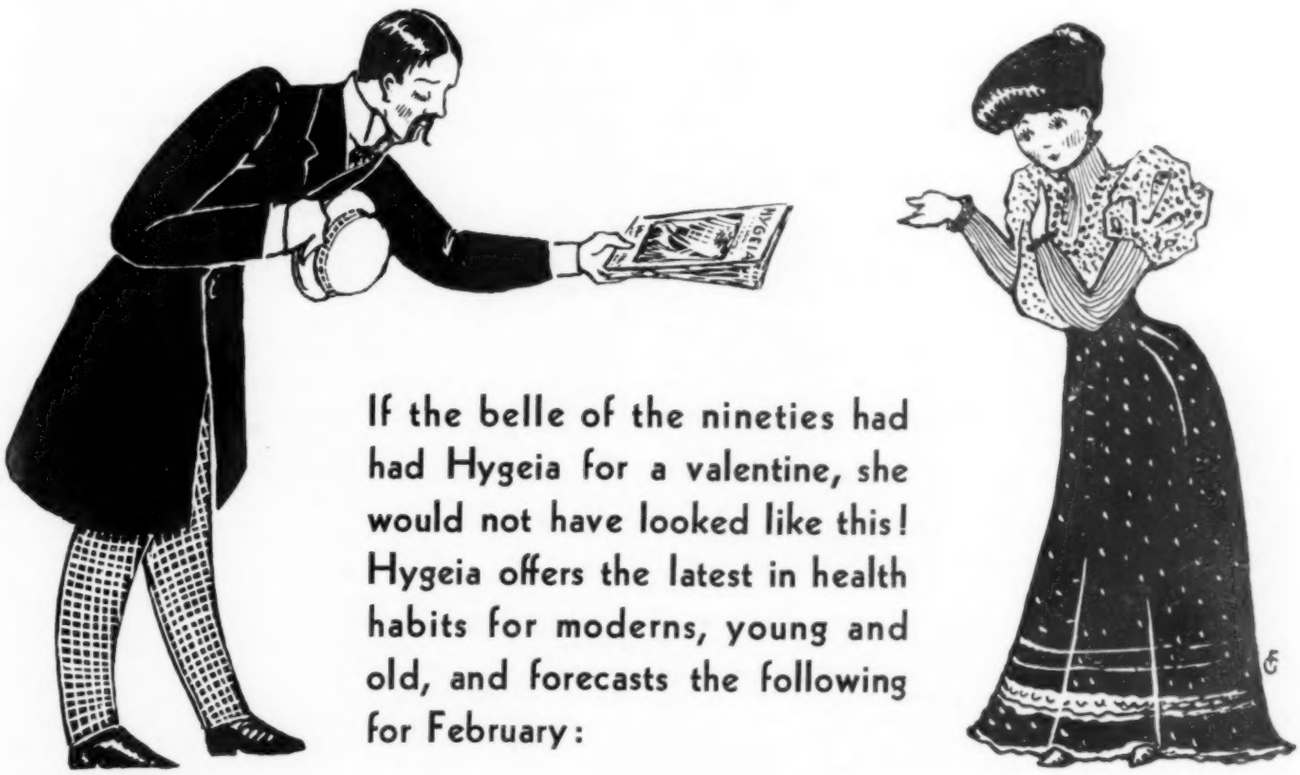
As a development from these researches, it has been found possible, by interfering with the supply of oxygen and of sugar, profoundly to

influence tumors and even to cause death of substantial parts of some tumors. Highly interesting work along this line is now being carried on at the University of California. Whether this will ever be found to have practical value in the treatment of human cancer is still problematic, but at least it brings us one step nearer an understanding of the cancer cell.

The possibility of an hereditary factor in cancer has been and is being extensively investigated in animals. Maude Slye of Chicago is the outstanding figure in this field. Working with many thousand mice, cross-breeding and maintaining accurate records of family history and tumor development, she believes that susceptibility and resistance to cancer are definitely inherited and that these two behave according to the well known mendelian law of inheritance. Possibly it may not be as simple as this, but the evidence is strong that inherited tendencies in animals play a definite part in the origin of cancer. No comparable human statistics are available, and if there were, little use could be made of them. Heredity cannot be changed.

Far too many people die of cancer today. The only hope of success lies in (1) preventing such cancers as it is possible to prevent by the measures suggested and (2) after cancer has begun, early discovery and early attack while the disease is still local, with complete removal or complete destruction of every cancer cell.

To achieve success in reducing the number of cancer deaths, the entire community must know (1) that early cancer is curable cancer and (2) when to suspect the presence of early cancer. The immediate need today is not so much experimental research but the use of knowledge already available to every one.


If the belle of the nineties had had Hygeia for a valentine, she would not have looked like this! Hygeia offers the latest in health habits for moderns, young and old, and forecasts the following for February:

In his paper on that marvelous organ, the heart of a child, *Dr. Paul Dudley White* deals with both the physical and the spiritual heart, and offers constructive measures for preventing children with heart disease from becoming imbued with fear and thus growing helpless and hopeless.

"We Americans have developed the habit of self diagnosis and self medication to the *n*th degree. We seem fairly to glory in gambling with our health, if not with our very lives," declares *Anna Steese Richardson* in an enlightening article, entitled "What Sixty Years Have Taught Me About Doctors."

"How about the quacks? Who are they? What is their game? Is it legitimate?" These questions are asked and answered by *Solon R. Barber* in his series of articles, "Quelling the Quacks," which begins in the February issue.

"Why Think About Eating?" In part 1 of this article, *Dr. Henry J. Gerstenberger* discusses and analyzes the results of an experiment carried on by Dr. Clara Davis "to determine whether newly weaned human infants could choose for themselves from a liberal variety of foods, both from a quantitative and from a qualitative standpoint, a diet which would be adequate for normal growth and development."

"Next in interest to the manner in which a great man lives is the manner in which he dies." With this statement, *Dr. Walter A. Wells* introduces his article, "The Final Illness of Washington," in which he describes the last days of Washington and discusses various theories of the cause of his sudden death.

"Build yourself physically, build a keen mind and build a noble character," and you will have built firmly and well the foundations of a worthwhile life. In chapter 2 of his series, "Training for Athletics and Health," *Alfred E. Parker* comments on the three sides that form the basis and define the pattern of every life: the physical, the mental and the moral.

FAIRY TALES — *Their Trial and Triumph*

By Juliet Hartman

WHEN I gaily donned my armor and set forth as a champion of fairy tales for children, I had thought to meet a host of those who were fighting bitterly to protect young innocents from the horrors and dangers of those old tales.

Each time, it seemed, when I had encountered what appeared to be a rousing good enemy and had warmed up in anticipation of the fray, almost invariably at an early date I heard, "But let me hasten to add," or "Understand me," or "I do not wish to be interpreted to mean." I knew that once again I had merely fallen afoul of a half-hearted protester who felt constrained to add, "Obviously fairy tales cannot be lumped and rejected *en masse*," and that once again I had struck Dr. Adler's "undistributed middle," and the quarrel dissolved into no quarrel at all. Dr. Adler says:

> I venture to think that, as in many cases, the cause of the quarrel is what logicians call "undistributed middle"—both have each a different kind of fairy tale in mind. This species of literature can be divided broadly into two classes—one consisting of tales which ought to be rejected because they are harmful and children ought to be protected from their influence; the other, of tales which have a most beautiful and elevating effect and which we cannot possibly afford to leave unutilized.

The only two whom I found unequivocably and seemingly irrevocably on one side of the fence or the other were Agnes Repplier, accepting all fairy tales, the bloodiest with the loveliest, and Madame Montessori rejecting all, the mildly imaginative as well as the most floridly fanciful.

Agnes Repplier in her "Battle of the Babies," proves herself a gallant defendant of the fairy tales:

> Not to know them is to be sadly ignorant and to miss that which all people have relished in all ages. Moreover, it is apparent to him, and indeed to most of us, that we cannot take even our earliest steps in the world of literature, or in the shaded paths of knowledge, without encountering suffering and sin in some shape; while as we advance a little further, these grisly forms fly ever on before. . . . All the dear old nursery favorites must, under the new dispensation be banished from our midst; and the rising generation of prigs must be nourished exclusively on "Little Lord Fauntleroy" and other carefully selected specimens of milk-and-water diet.
>
> I believe it is well to cultivate a child's emotions as well as to cultivate his manners or his morals, and the first step in such a direction is necessarily taken through the stories told him in infancy. If a consensus of mothers would reject these good old fairy tales "in their unmitigated brutality," a consensus of men of letters would render a different verdict, and such men who have been children in their time and who look back with wistful delight upon the familiar figures who were their earliest friends are entitled to an opinion in the case. That which is vital in literature or tradition, which has survived the obscurity and wreckage of the past whether as legend or ballad or mere nursery rhyme, has survived in right of some intrinsic merit of its own and will not be snuffed out of existence by any of our precautionary or hygienic measures. It is not by such barbarous rhymes or by such brutal spectacles that we teach a child the lessons of integrity and gentleness, explain our nursery moralists, and probably they are correct. Moreover, Bluebeard does not teach a lesson of conjugal felicity and Cinderella is full of the world's vanities, and Puss-in-Boots is one long record of triumphant effrontery and deception. An honest and self respecting lad would have explained to the king that he was not the Marquis at all, that he had no desire to profit by his cat's ingenious falsehood and no weak ambition to connect himself with the aristocracy. Such a hero would be a credit to our modern schoolrooms and lift a load of care from the shoulders of our modern critics. Only the children would have none of him, but would turn wistfully back to those brave old tales which are their inheritance from a splendid past and of which no hand shall rob them.

Madame Montessori, on the other hand, with a sweeping gesture rejects them all. She is one

of those who object to any stimulation of fanciful imagination in children and who would have us confine ourselves to what they call realities. This group would eliminate as far as possible all the imaginings of children. The make-believe world so dear to infancy has no place in their creed. Madame Montessori's quarrel is with the broader subject, fanciful imagination, under which, of course, fairy tales would be included. In contrasting the modern inventive age with the past, she attributes the difference to the fact that the imagination of modern man is based on the positive researches of science, whereas the men of past ages allowed their minds to wander in the world of fancy. "This single fact has changed the face of the world."

She discloses for us her type of imagination. Think of fairy wings bruised against the "cement for imaginative constructions," fairy wands bent through efforts to transform them into the fanciful:

> If then, the true basis of the imagination is reality, and its perception is related to exactness of observation, it is necessary to prepare children to perceive the things in their environment exactly, in order to secure for them the material required by the imagination. Further, the exercise of the intelligence, reasoning within sharply defined limits, and distinguishing one thing from another, prepares a cement for imaginative constructions; because these are more beautiful the more closely they are united to a form, and the more logical they are in the association of individual images. The fancy which exaggerates and invents coarsely does not put the child on the right road.

Madame Montessori goes on to say that it is we who imagine, not they (the children); they believe, they do not imagine:

> Credulity is indeed a characteristic of immature minds which lack experience and knowledge of realities, and are as yet devoid of that intelligence which distinguishes the true from the false, the beautiful from the ugly, the possible from the impossible.
>
> Is this illusory imagination, based on credulity, a thing we ought to "develop" in children? We certainly have no wish to see it persist; in fact, where we are told that a child "no longer believes in fairy tales," we rejoice. . . . We ought to ask ourselves "what support did we offer this frail mind to help it grow straight and strong?" The child overcomes his difficulties in spite of our endeavor to keep him in ignorance and illusion.

Under her realistic wand, even dear old Saint Nick becomes an "old man covered with snow, carrying a basket of toys!"

Thus it is by some outstandingly staunch advocate such as Madame Montessori that the perennial conflict between realism and idealism, between the unimaginative and the imaginative, is kept alive and glowing. Educators find that "the natural and spontaneous interests of young people seem to indicate that they are quite as much predisposed to idealism as to realistic or utility studies." Here again the question arises: Why should there be any antagonism or bitterness between the partisans of these two groups? Each of these groups is indispensable to the proper education of the child.

Some of Mrs. Mitchell's arguments in the introduction to her "Here and Now" story book sound strangely akin to those of Madame Montessori:

> We are inclined to accept them [fairy stories] uncritically, feeling that they do not cramp a child as does reality. We cling to the idea that children need a fairy world to "cultivate" their imaginations. In the folk tales we are intrigued by the past—by the sense that these embodiments of human experience, having survived the ages, should be exempt from modern analysis. If, however, we do commit the sacrilege of looking at them alongside of our educational principles, I think we find a few precious ones that stand the test. . . . We seem to identify imagination with gullibility or vague thinking. But surely true imagination is not based on confusion. Imagination is the basis of art. But confused art is a contradiction of terms.
>
> Now, the ordinary fairy tale which is the chief diet of the four and five year olds, I believe does confuse them; not because it does not stick to reality (for neither do the children) but because it does not deal with the things with which they have had first-hand experience and does not attempt to present or interpret the world according to the relationships which the child himself employs. Rather it gives the child material which he is incapable of handling.

Both Mrs. Mitchell and Madame Montessori are realists, but there the divergence in views starts. Mrs. Mitchell believes in starting with the "Here and Now" because that is what the child knows and understands. She believes in exercising his imagination and in personification, whereas Madame Montessori decries both of these ideas. She thinks, however, that the child should not be confused by the interjection of the remote and impersonal:

> He still thinks and feels primarily through his own immediate experiences. If this is interfered with he is left without his natural material for experimentation for he cannot yet experiment easily in the world of the intangible. Moreover to the child the familiar is interesting. . . . It is only the blind age of the adult that finds the familiar uninteresting. The attempt to amuse children by presenting them with the strange, the bizarre, the unreal is the unhappy result of this adult blindness. Children do not find the unusual piquant until they are firmly acquainted with the usual; they do not find the preposterous humorous until they have intimate knowledge of ordinary behavior; they do not get the point of alien environments until they are securely oriented in their own.

It is this very orientation that Green in his "Psychoanalysis in the Classroom" finds so well accomplished by fairy tales. Far from being so different from the child's world as to be confusing, he uses them to serve as a guide:

The interest of the fairy story for the child lies in the fact that the fairy world is one of the same kind as the world he imagines for himself. It is a tiny world of narrow but intense interests. The people who inhabit it are small, like himself, or immense like the grown-up people who surround him. They are either very kind, showing their kindness by means of gifts, or they are hostile, with a disposition to frighten, to beat, to kill, or to imprison. It is a world of violent antithesis like the child's own world, where things are black or white, good or bad, nice or nasty, where fine distinctions are unknown. It is a primitive world, where all right is awarded and all wrong is punished. It is precisely the kind of world that would be conceived by people of narrow and simple experience, living in a small and self-contained community like the world of the home.

The child is easily able to project himself into such a world, and to identify himself with the principal characters. It is he who meets with the undeserved fate of the "Tin Soldier," or who is the "Ugly Duckling." . . . The fairy tale that appeals to the child makes its appeal because it is all about himself.

But the fairy tale does not end with the description of the world in which the child lives at the moment. It goes on to the development which is concerned with the putting right of all things that are wrong and to the inevitable "They lived very happily ever afterwards." The fairy tale deals then with childish wishes and their fulfillment. It is exactly analagous to the dream and the day dream.

Here the new psychology and its proponents step in and protest. Dreams, day dreams, fantasies and complete loss of reality find such easy transition from one to the other that warnings are sounded in all the late psychologies. Dr. Crichton Miller in his "New Psychology and the Teacher" speaks loudly against these dangers. He is one of those, however, who grant to fairy tales their full right to glory if safeguarded by wise choice:

There is need for a protest against the mere shibboleth of "developing the child's imagination." The phantasy tendency is inherent in every child, but its development is not necessarily valuable. The policy of developing the imagination may produce an Edison or a hypochondriac. Any form of stimulus to the imagination, whether it be the kinema or phantasy or fairy tale, needs to be judged on its own merits. The value or the harm of it depends entirely on the kind of story he hears or makes up for himself. No one can doubt that fairy tales, myths and allegories serve the purpose of objectifying the abstract so as to bring it within the grasp of the child; he must pass thus from the seen to the unseen, from the known to the unknown.

Mrs. Sidonia Gruenberg, too, finds that in combating the child's world of fancy "there is objection to the magic intercession of mysterious agencies that bring honor and riches or perhaps severe penalties, in total disregard to the actual happenings in life and of the ideal relationships toward which mankind strives. Fairy tales do, in short, not only give false pictures of life and unworthy goals of aspiration but they replace reality with fantasy, sometimes to a pathological degree."

Dr. Gruenberg stresses the following point:

If it is difficult for the adult to meet the hard cold world, so much more difficult is it for the child to do so and so much greater is the temptation to find refuge in a world of fantasy. In the fairy tale, the hero realizes his desire by wishing rather than striving and obtains his ends by the aid of outside forces. Here is where the danger lies, for the child must be taught to obtain realization through effort. We must remember that stimulus is commensurate with reaction. A fairy tale is acceptable only if the hero realizes his desires through his own efforts.

Addington Bruce, too, in his studies quoted from doctors and psychologists, finds that when the imagination is not given an outlet through stories, it turns to other channels:

A child who never hears a fairy tale is developing a tract in his soul that in late life will grow barren. More than this, cases are on record indicating that unless the child's instinct in craving for the romantic and the ideal is satisfied by well chosen fairy tales, he may gratify this craving in ways that shock his elders.

Thus it is ofttimes not the fairy tale that leads to fantasy, but fantasy that turns to the less harmful fairy tale.

Dr. Miller, too, finds dangers from within:

So much may be said of the stimulation of phantasy from without. It should be remembered, however, that although we may guard all the outward gates of the child's mind and submit all incoming phantasy material to a careful inspection, there is one line of communication which defies our vigilance, for it leads from the depth of the unconscious. The myths and symbols that belong to the racial unconscious emerge thence in dreams and day dreams. Dr. Maurice Nicoll has pointed out the impossibility of protecting the child's mind from all images of terror and nightmare: "The goblins of the night spring out of the sleeping senses themselves as apparitions older than the waking mind, as haunters older than the haunted."

But that theory of fear from within does not lead us to agree with this minimizing of its effect:

Be slow to reject a folk tale unless the bit of immorality—a lie or an act of disloyalty or irreverence or the bit of coarseness—really forms the pivot of the story. Only then is the story unsafe or incurable. . . . The fact that the child's experience and information enable him to make no image of the physiological sequelae of the cutting off of heads for instance, makes it easy for the teacher to carry him harmless past details that would seem brutal to his nervous and squeamish elders. . . . And these details are

never the point of emphasis in any good story. And on the whole, those persons whom the children like and are likely to incorporate into their "pattern" have manners either just or gentle even in the folk tales.

A view diametrically opposed to this slurring over of the effect is found in "Handicaps of Childhood":

"Every ugly thing told to the child, every shock, every fright given him, will remain like minute splinters in the flesh to torture him all his life long," a famous Italian scientist, Angelo Mosso, said a long time ago. During the past few years since physicians began to appreciate the part played by childhood impressions in causing mental and nervous disease, evidence has been accumulating to indicate that the almost universal custom of telling fairy tales to children does entail grave risks to their character and their health.

Let me hasten to add that this does not mean that the fairy tale should be entirely banished from the literature of the child. It means only that parents should exercise more discrimination than they usually show in selecting fairy tales for their children. The rightly chosen fairy tale is indeed an almost indispensable aid in the early education of children. But dreams of cruelty, of jealousy, abnormal harshness, fears, night terrors were traced by Dr. Brill to improper fairy tales.

This question, after all, merely resolves itself into one of proper choice of fairy tales. On that subject it would seem that nearly all, except the publishers of children's books, are agreed.

As to the value of fairy tales, modern psychology would be inclined to scoff. There is so little chance of "learning by doing" in sitting and listening to even the choicest of old tales most entrancingly told that the ideomotor theory of Dr. Thorndike would swamp them under the weight of their own uselessness.

Many teachers and leaders, however, in the face of all opposition persist in their faith in the efficacy of story telling as a driving force with children. Dr. Coe finds stories effective and tells us why he would retain them as reading matter for children:

In the imaginative rehearsals that are so characteristic of children particular parts are assigned, distinctions of social quality are recognized, relation of cause and effect are to some extent noted and the imaginer himself assumes a character. This assumed character may, under favorable conditions, persist as an attitude or special readiness for action after the dramatic rehearsal is over. An attitude is an initial stage in actual conduct; there is momentum in it, thus it is that the imaginary can control the actual with children and with adults.

Dr. Gruenberg, too, finds value in them for very much the same reasons plus a bit of freudian point of view:

The story interest of the young child is used almost unconsciously the world over as a channel for stimulation and inspiration. The fairy and folk tales of all countries satisfy the interest and at the same time suggest crude interpretations of motive and elemental aspirations in keeping with the child's mental and emotional development. They reach the child's imagination at a time when he can easily project himself into the personality of the hero and thus enrich his views and experience in a large variety of relations and situations which he can appreciate.

Dr. Brill believes that they represent the abnormal gratification of desires, regression from all effort, the encouragement of primitive and archaic thinking and that they hinder normal development and adjustment to reality.

Between these two opposed views is the one which recognizes the value of the symbol as a carrier of energy, furnishing an outlet for otherwise suppressed psychic material. The creation of the symbol to satisfy some otherwise unfulfilled wish is the basis of artistic creation. Many children find in well chosen fairy tales an outlet for their hidden complexes and desires and the value and danger of these stories are similar to those of the drama and movie.

Mrs. Mitchell, in slight measure, feels these educatively valuable features of these old tales. She thinks that we may be merely reduced to giving children these inappropriate stories for lack of something better, that we have had no real writer of children's literature. She writes in the hope that a recognition of the need may evoke a great writer for children—a writer of more appropriate stories which all children would be sure to enjoy.

In answer to this ideal of Mrs. Mitchell, one of her critics says:

The great writer for children, I am beginning to suspect will have to lift his feet from the "Here and Now," restore the wings of fancy to their place and soar away on the rejected Pagasus to the land where one's reach may exceed his grasp. But when he gets there and begins to put pen to paper, it will be well for him to remember what Mrs. Mitchell found the needs of child listeners to be, rhythm, and repetition, old familiar things, more action than plot, more stimulus than information.

All these qualifications Mrs. Mitchell found in the fairy tales. Mothers and nurses through the ages have recognized them. On account of these things they have survived through the ages. On account of them, future mothers and nurses, reinforced by all other lovers of literature, will not brook any opposition to giving their children fairy tales. Psychiatry, psychoanalysis, child psychology and other "isms" and "ologies" of modern life may cause the public to throw up new safeguards around old dangers, but that in no way necessitates abandoning those treasures of childhood for trivial modern wares which copy their form but lack their content. And after a discussion of pros and cons the fairy tales have once again been tried and found not wanting.

Wash Day

Throughout the world may occur once or oftener in a month of Mondays

Ewing Galloway

Washing on a Slovak farm involves methods and devices similar to those used by Slovakian ancestors centuries ago.

International Newsreel

There's only one blue Monday in a month for these peasant women in Russia who are taking the month's washing down to their open-air laundry.

International Newsreel

These little French girls are helping mama with the wash in the public watering fountain of a French Alpine region.

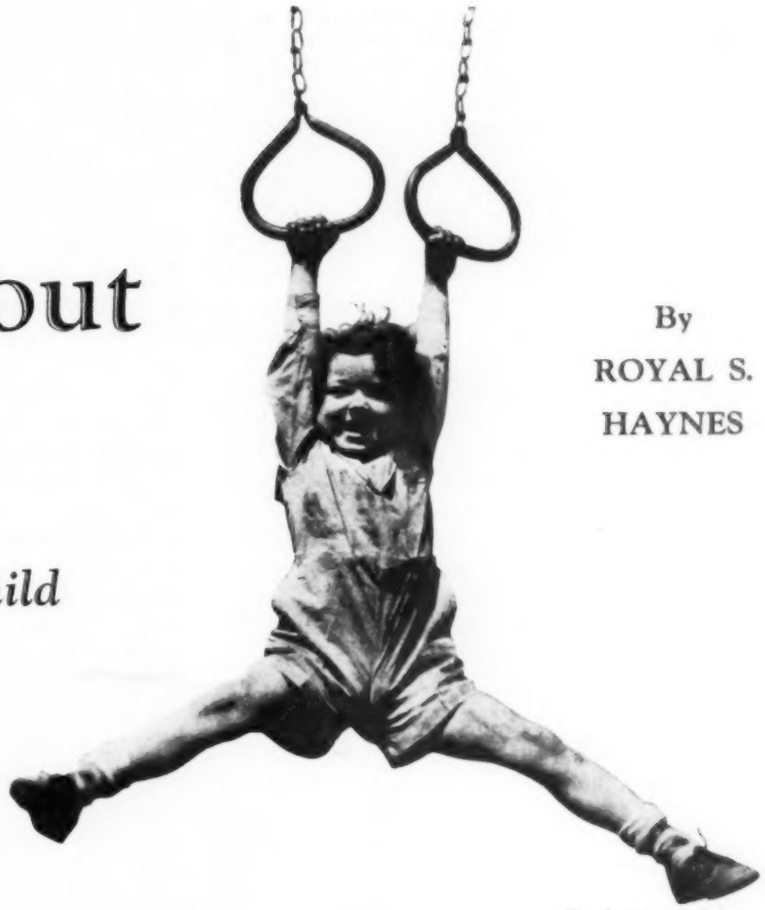
International Newsreel

Business is flourishing in the laundry at Port-au-Prince, Haiti.

The Runabout

Posture and the Preschool Child

By ROYAL S. HAYNES



H. Armstrong Roberts

WHEN a little baby who has been creeping about in his nursery or in his pen reaches up his tiny hand and grasps some object to pull himself up onto his feet, he is performing an act of great significance, for he is assuming the erect posture which is characteristic of human beings. He does it, somewhat as did his earliest ancestors, by first pulling himself upright with his arms and then pushing himself up further by his legs.

At the time of his earliest attempt he is not able to maintain himself erect on his two feet unaided or to walk, and it may be several weeks or a month or two before he can or dares to take that first step which to his father and mother is such a great joy; for his little muscles have not learned how to act together to keep him upright. Even when they have learned coordination, the art of acting together, they will not be strong enough at first to keep him on his feet for a long time; but he will have attained, even if only for a moment, the erect posture which is man's heritage and which has done so much to make man superior to all other animals.

From the day on which their babies begin to stand up, mothers cannot help becoming interested in posture, for it is an important matter in the lives of their children, whether they are toddlers, runabouts or school children; for posture means a good deal besides the position that a person assumes in standing and walking. That phase is what one might call the outward expression of posture, and it has its importance, for it has to do with beauty and grace—desirable qualities to be attained early and kept throughout life. But the word posture has an inner meaning. Sometimes the term body mechanics is substituted, because posture gives the impression of something that is stationary, and every one knows that the little preschool child seldom stands still. The term body mechanics, on the other hand, gives one the idea of the working of the human body as a sort of machine in which all the parts must have their correct positions or postures in relation to each other, if the machine is to run smoothly and well. For instance, the posture of the child's head must be right if his jaws are to meet and the teeth are to bite as they should; the posture of his chest must be right if his heart and his lungs are to do their important work properly; the posture of his legs must be right if his little feet are to support his body and carry it everywhere.

Posture means not only the position in which the child holds himself and walks about, but also the effect which that position has on all the child's internal organs, making them work in a healthy fashion if the posture is good and interfering with their healthy working if it is poor.

The position of any one part of the body affects all the other parts, for they accommodate themselves by taking the positions which are necessary although those postures may be bad and mechanically inefficient. If, for instance, a child has been fed so that he has a large

abdomen, he is liable to have a strong forward curve to his back, to throw his shoulders far back, to let his shoulder blades stick out, to hold his lower extremities so that one fears he may have knock knees or bowlegs, and to walk on the inner side of his feet.

It is natural for runabout children to have rather large abdomens, but they outgrow this to a great extent when they become old enough to go to school. Some of them, however, are much too big around the waist, and such a posture of the abdomen not only will make them stand as I have described but is liable to make them constipated. They will have poor body mechanics in regard to digestion, and other functions will also be handicapped.

The legs of all infants are more or less curved. They were curved before the baby was born and they become straight as he uses his muscles, which pull on the soft bones and make them straighter.

Gradually his feet undergo a similar process of development. Infants' feet are quite flat, and they begin to develop an arch because the muscles shape the foot so that the inner side is pulled up off the ground. By and by, as the child becomes accustomed to using the muscles which keep him upright and his muscles become strong through use, he acquires straight lower extremities and good feet.

Alvina Lemke Studios

It is almost impossible to teach the little runabout child to stand and walk in a good position, for his mind is not yet ready for such lessons; but one can do a great deal, with the doctor's aid, to see that the child is allowed to grow normally and that he gets exercise to make his muscles strong.

In the first place, the expectant mother can take care of herself before the baby is born, so that he may be as strong a baby as possible. The new-born infant should be given breast milk, for that is better than anything else for his proper growth. If this is impossible, the mother should follow the physician's advice in feeding the child artificially, so that he may be healthy and may grow as he should. The mother should bear in mind the prevention of rickets, a disease of the bones and muscles occurring in children who are not properly fed and who are kept too much indoors, for rickets can change the shape of the bones so that they cannot be pulled straight or it may make them soft so that they take deformed outlines when they have to bear weight as in walking or standing. Cod liver oil will help to prevent rickets.

When the baby is small, remove his clothes and encourage him to kick and squirm about; in this way he obtains real exercise. Good feeding, sunlight and exercise—all the aids that keep him from being weak and help him to be strong—will assist him in gaining a good posture, while colds, bronchitis, and food causing indigestion will make his muscles weak and will surely prevent his having a good posture. Do not demand too much of his little body. Do not prop him up and make him sit when he is too young or expect him to stand and walk too early. His bones, muscles and ligaments may not be ready for the strain that is put on him. If he is urged too much, he may hurt himself. Whatever he does in the way of standing or sitting by himself, however, he may safely be allowed to do, for if it tires him he will stop doing it.

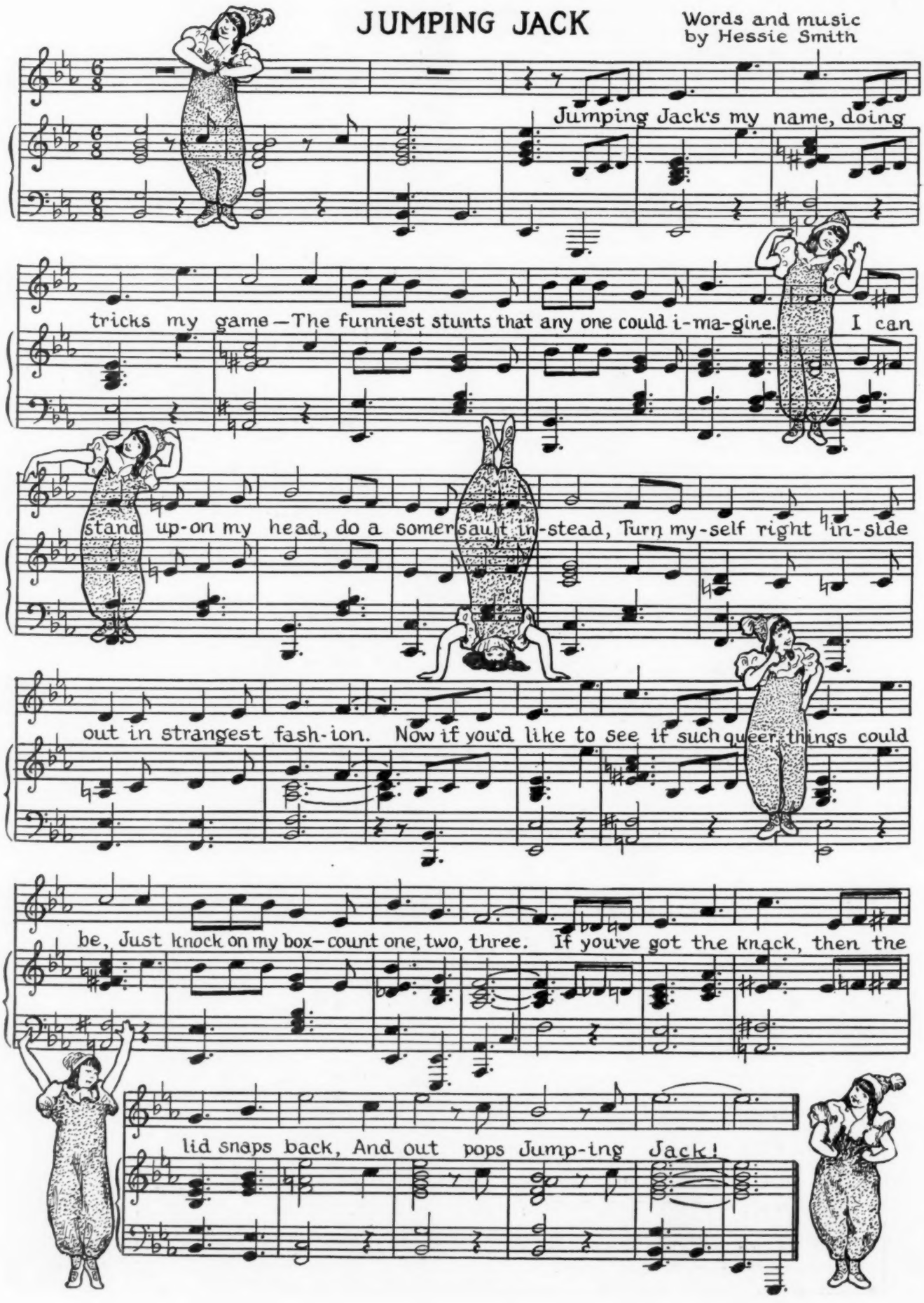
When the child begins to stand and walk by himself, give him the softest shoe obtainable, so that he can feel the ground with his soles and use the small muscles which control the forepart of the foot and the toes. Do not be alarmed if he turns in his toes a little. It is better than turning them out, although he should do neither the one nor the other but should hold them straight ahead as the Indians do.

When the child is of kindergarten age, he can play games and romp around with other children; he can learn to push fairly heavy objects across the floor; he can practice climbing short staircases, one foot after the other, to strengthen his leg muscles; he can walk around or perhaps along a painted line on his toes to acquire balance;

he can hang from rings or go along a suspended ladder hanging by his hands. All these activities will strengthen his muscles and help him to acquire a better carriage.

It is wise always to refrain from telling him to stand up straight and throw his shoulders back, for this gives him only a false appearance of straightness. Instead, teach him to raise his chest and let the shoulders fall as they will.

A little patience and the faithful carrying out of these suggestions will bring excellent and lasting results in the posture of the preschool child. Every mother can and should watch her child's posture, for every mother wants her child to have a well poised head, a high chest and flat back; to have straight legs and strong feet; to have, in a word, good posture; for then he will be healthier and happier.

FUNNY HOW SOME FOLKS CAN TAKE ADVANTAGE OF SPECIAL CASH TRAVEL RATES——
——INVARIABLY HAVE THE LATEST IN CLOTHES AND CARS——
——AND ALWAYS INSIST ON PAYING FOR THEATER PARTIES.
Never mind, Joe. I've got it.
BUT WHEN IT COMES TO THE DOCTOR——OH WELL, THAT'S ANOTHER MATTER!
Here's the fourth bill from Dr. Jones, Fred.
Hmmm——well, I'll take care of it one of these days——don't bother me now.
GRAHAM HUNTER

JUMPING JACK
Words and music by Hessie Smith
Jumping Jack's my name, doing
tricks my game—The funniest stunts that any one could i-ma-gine. I can
stand up-on my head, do a somersault in-stead, Turn my-self right in-side
out in strangest fash-ion. Now if you'd like to see if such queer things could
be, Just knock on my box—count one, two, three. If you've got the knack, then the
lid snaps back, And out pops Jump-ing Jack!

JUMPING JACK

A Dance Arranged by
Merriel Abbott

Words and Music
by
Hessie Smith

Drawings
by
Frances Gorsline

FIRST CHORUS

STEP No. 1

I. Take 4 slides to the right, with the arms extended to the side (measures 1 and 2).

II. Jump to a stride position, the arms remaining extended to the side. Jump and bring the feet together, at the same time clapping hands overhead (measure 3). Repeat II (measure 4).

III. Now repeat the entire combination to the left side: I (measures 5 and 6); II (measures 7 and 8).

STEP No. 2

I. With hands on hips (fig. 1), step on the left foot; hop, and kick the right leg forward (measure 9).

II. Step on the right foot (fig. 2); hop, and kick the left leg backward (measure 10).

III. Now repeat I and II in a circle to the right three more times, facing front again at the finish (measures 11, 12, 13, 14, 15 and 16).

STEP No. 3

I. Jump to a squatting position, hands on hips (figs. 3 and 4). Jump straight up, feet apart, weight on heels, arms extended diagonally upward (measures 17 and 18).

II. Take 4 gallops, moving backward, raising the knees high in front and keeping hands on hips (measures 19 and 20).

III. Now repeat the entire combination of step 3 two more times: I (measures 21 and 22); II (measures 23 and 24); I (measures 25 and 26); II (measures 27 and 28).

IV. Take 8 running steps forward, kicking the heels up in back, the hands remaining on the hips (measures 29, 30, 31 and 32).

SECOND CHORUS

STEP No. 4

I. Step forward on the right foot, the left leg extended backward, the right arm extended forward and the left arm extended backward; hop three times (measures 1 and 2). Repeat I to the left (measures 3 and 4).

II. Take 8 jumps with the feet together, turning to the right, making one complete turn in the 8 jumps. Extend arms to the side on the first jump and slap the sides on the second jump; extend arms to the side on the third jump and slap the sides on the fourth jump, and so on for the 8 jumps (measures 5, 6, 7 and 8).

III. Now repeat the entire combination of step 4, starting to the left: I (measures 9, 10, 11 and 12); II (measures 13, 14, 15, 16).

STEP No. 5

I. Face right and do a somersault, coming to an erect position at the finish of the somersault (measures 13, 14, 15, 16).

II. Skip backward 4 times (measures 19 and 20).

III. With hands on hips, point the right foot forward (fig. 5); then with a little hop, change and point the left. Continue alternating 7 times, turning to the right, and finish facing left with the feet together on the eighth count (measures 21, 22, 23 and 24).

IV. Now repeat the entire combination of step 5 to the left: I (measures 25 and 26); II (measures 27 and 28); III (measures 29, 30, 31 and 32).

The last time finish the last point forward, with the arms extended diagonally upward and hold the pose to the last beat (fig. 6).

The Little Old Lady Who Walks Round the Block

By Elizabeth Jenkins

"HERE she is! Here she is! The Little Old Lady Who Walks Round The Block!"

Sure enough, there she was, looking as if she had just stepped out of a story book. She was little and bent, stooping low as she walked with a cane, like a fairy godmother. For she was very, very old, nearly 100 years old. Her eyes were so old that they could not see much. And her ears were so old that they could not hear much. But her feet still went with the quick step they had used for nearly 100 years, as The Little Old Lady walked round the block.

"Here she is!" shouted Pat, running to her and putting a hand on her arm, for Pat was very fond indeed of the Little Old Lady.

"And who is this?" asked The Little Old Lady, for she could not see Pat well.

"It's Pat," shouted Pat in her ear.

"My dear boy! I'm so glad to see you this beautiful morning," said The Little Old Lady Who Walks Round The Block.

That was a joke between The Little Old Lady and Pat, for Pat was not a boy, but a girl, 8 years old. Her real name was Patricia. Pat was her nickname. But at first The Little Old Lady thought that Pat was a boy. And Pat looked like a boy. She wore knickers and had a loud voice. What is more, she had a boy's name. So The Little Old Lady still called her a boy, just for the fun of it.

"May I walk with you?" shouted Pat.

"I shall be delighted, my dear boy, delighted," said The Little Old Lady Who Walks Round The Block.

So Pat took her arm, and around the block they went. Whenever they came to a dark place on the sidewalk, The Little Old Lady would say, "Is that wet?" And if it was, Pat would say "yes" and guide The Little Old Lady around it. And when they came to the step at the alley, Pat would help The Little Old Lady to step down and then, when they were across the alley, to step up.

When they came to the house where the baby lived, the dog would come running out to see The Little Old Lady. Then he would run back to get the baby, 2 years old. The baby liked to play with her cane and with her pocket-book. Sometimes The Little Old Lady had a cooky for the baby or a piece of bacon that she had saved from her breakfast for the dog. Every day The Little Old Lady walked around the block. It was the only place she could go alone. She called it "going round the world."

Sometimes Pat would go to The Little Old Lady's room with her. Her room was in a big house where other old people lived. Sick people lived there too. The Little Old Lady was staying there while her daughter was away painting pictures.

Pat helped The Little Old Lady find the things she was always losing because she could not see well. She said that Pat was a good finder. Pat thought it fun to find The Little Old Lady's things. They hid themselves in such surprising places. She liked, too, to help The Little Old Lady put on and take off her things.

"How can you dress yourself, when you can't see?" Pat asked.

"I feel," said The Little Old Lady. "But hooks and eyes and snappers are such a bother! See, this is the way I know my right shoe from my left. I have a paper pasted on the sole of my right shoe, there on the instep."

"That is a good way," said Pat. "Can you take your bath alone, too?"

"Yes, every day I jump in and out like a frog," laughed The Little Old Lady.

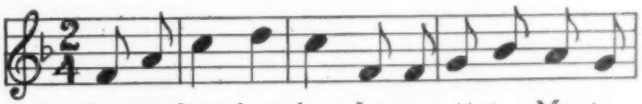
Pat laughed, too, to think that a little old lady nearly 100 years old could jump in and out like a frog.

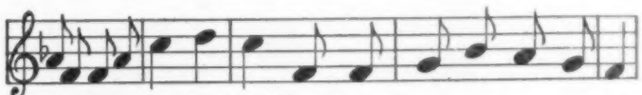
"Here is my play piano," said The Little Old Lady, as she seated herself at a long table. "I play my twenty-four scales every day." As she played some of them for Pat, her fingers went fast. For many years she had taught music and French, and she still played beautiful music on the piano. People treated her with great respect. They called her Madame.

"I'll sing you a French song about the marionettes which my mother taught me when I was a little girl in Switzerland," said The Little Old Lady. Then she sang in her high, sweet voice. Her head nodded from side to side, keeping time with the music. And her hands kept time, too, as, holding them upright, she made them turn now this way, now that, throughout the first verse. At the second verse she stood up, put her hands on her hips and danced around. It was a wonder to Pat that a little old lady nearly 100 years old could dance like that.

"I'll do it, too," said Pat. So she and The Little Old Lady sang and danced together, and here is the song they sang:

The Little Marionettes



1. Ain-si font, font, font, Les pe-ti-tes Marion-
So do, do, do, The lit-tle Marion-

-nettes, Ain-si font, font, font, Trois p'tites tours et puis s'en vont.
-ettes, So do, do, do, Three times round and then a-way.

Second Verse

Mettez les mains sur vos côtés,
Marionnettes, Marionnettes,
Mettez les mains sur vos côtés,
Dancez, Marionnettes, Dancez.

Put your hands on your hips,
Marionettes, Marionettes,
Put your hands on your hips,
And dance, Marionettes, dance.

When the cold weather came, The Little Old Lady's daughter returned from the country, where she had been painting pictures, and took her mother to live with her again. So The Little Old Lady does not walk around Pat's block any more. She walks around another block far away. But she says she may come back some day. Pat hopes she may, for she misses The Little Old Lady Who Walks Round The Block.

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

Novel Adventures In Health

CAPACITY to face and solve problems of living is essential to individual and social progress. For this, one must have not only eyes to see and the ability to choose a sound course to follow but also the determination to put decisions into action. Vision, judgment and a will to do are valuable personality assets, increasing the ability to adjust oneself to people and to conditions of living; they make for happiness.

Problems in living confront one from birth, and the earlier one can begin to develop a capacity for solving difficulties, the greater will be one's power for constructive living.

Teachers can guide children to find in themselves this power, but the blind cannot lead the blind. Teachers must first gain for themselves the ability to recognize and solve their own problems before they will be able to guide children to see clearly child problems and to solve them successfully.

In the Health and School department of HYGEIA this month a supervisor, whose work lies in county rural schools, describes how a group of teachers embarked on the venture of discovering a way of solving problems of child living as they appeared in their own group of pupils.

For three years the teachers of Guilford County, N. C., have been conducting this unique and successful experiment in health education. It is based on the progressive idea in education that children may be trained to recognize and solve actual health problems present at home and at school.

Beginning in this issue and carrying over into two successive issues will be a series of stories told by some of these teacher adventurers. Together they form a cross-section of a unified, countywide effort to help children of elementary school age to think and to act intelligently on matters of health importance.

Every teacher has at least a bowing acquaintance with these five steps in problem solving, but perhaps not every one is as familiar with the idea of using this method in guiding the thinking of a child in the first grade. Many will be surprised to find that these five steps are well within the capacity of a small child to handle successfully. Even in the story of the first grade study, these steps are apparent although they are used in a simple way. Contrasted with this simplicity one finds an increased capacity in the children of the third grade as shown in the stories of their efforts for personal cleanliness. Not only does one notice the broader consideration and wider range of resources in gathering information, but one also finds a spontaneous use of group methods in the attack. Committee consideration of different aspects of the problem appears; the tools of reading and writing are found more useful, and facts are also sought in the community as well as in the home and in the school. The handling of the problem is adjusted to the interests of a more mature point of view and to the increased capacity of the children to self direction and self reliance.

The stories selected for this issue deal with aspects of personal cleanliness and appearance. This choice was made deliberately for the purpose of revealing more clearly and definitely the flexibility of this approach even in the primary grades. The next issues will carry stories on other problems of health and living from other grades. These also are selected to mark the progressive growth of children in their capacity to think and act intelligently.

The children are not exceptional children; the problems reveal that they come from homes in which the opportunities are not unusually favorable; yet success in improving daily living is evident, and the satisfaction of that success is and will always be their own.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

FOSTERING HEALTH EDUCATION BY SOLVING EVERYDAY PROBLEMS

THE 235 teachers in the elementary schools of Guilford County, N. C., realized about four years ago that they were faced with many complicated problems which related to everyday healthful living of the boys and girls within their classrooms.

Within a comparatively short time, eighty-six small school units had been merged into thirty consolidated schools. As a result it was necessary for some 8,000 children to learn to live together in a larger social group. This brought about new physical, mental, social and emotional health problems which had to be solved. Children came from distances and were crowded on trucks. When small children had to wait for the busses it made a long, tiring day. The drinking fountain replaced the water cooler and the drinking cup or perhaps the water bucket and the family dipper. On the playground, children were overstimulated by the unaccustomed excitements of playing in these exceptionally large groups.

The use of a modern indoor toilet was an entirely new experience to the child who had only an outdoor wooden arrangement at home. Groups of children had to learn how to pass back and forth through

narrow aisles in the school building without crowding and pushing. School organization, planned to take care of large numbers of boys and girls of all ages, in many instances gave precedence to organization over the welfare of the child. Moreover, training courses in health education had failed to give the teacher capacity for recognizing the problems, much less for solving them when they were found.

For the purpose of aiding the individual schools and teachers in meeting this situation, the supervisor organized a definite program that would help teachers develop and apply a definite philosophy of health education. The schools became laboratories for solving problems of living.

In the guidance of the children in problem solving, five different steps were involved:

1. The recognition and statement of the problem.
2. A collection of facts.
3. The evaluation of the facts.
4. Drawing conclusion from the facts.
5. Application.

A dynamic philosophy evolved from the thinking of the teacher group. "Health results from the growth and improvement of the child's mental, emotional, social and physical health behavior. To attain these behaviors, certain habits, attitudes, skills and knowledge are needed, but in addition children must develop self reliance and self direction if their conduct is to improve."

Naturally the next step was to find out objectively what forces, factors and natural situations within the home, the school and the community might contribute to healthful living. Such a study, to be valuable, must be concrete, and the teachers realized the need of positive statements and standards by which they might evaluate their own school practices. An outline was drawn up and discussed by groups of teachers. The equipment and activities of the school were then studied in terms of health needs. The natural situations which occurred throughout the average school day were analyzed by the same criteria.

When each teacher had finished her analysis, all the teachers in a school pooled their results to get a composite picture of the prevailing health needs and practices of the school as a whole. A summary made from all the schools gave a countywide picture and offered a definite basis for future plans.

The teachers' interest in the child's well being attracted the attention of parents, who began to consider health practices in the home. To meet a need on the part of many parents for some type of

guidance, an outline similar to that used by the teachers was worked out by representatives from the county council of the Parent-Teacher associations. In this outline they set up standards for evaluating the health practices of the child in the home; these were based on the standards used in the school. Some of the observations of the home were used as materials for parent study groups under the local Parent-Teacher Association. As a result of these home and school studies there seemed to be a growing understanding between the home and the school that the matter of child development must be a cooperative venture.

The analysis of the child's day in the school gradually unfolded to the teacher rich and interesting teaching materials growing out of natural situations in which there was actually a need for cooperation between teacher and pupil. The teachers found that many of these newly discovered health problems could be solved by the teacher and pupils working together. Their concept of health education had become not a matter of fitting children into a regimen but of leading children to look out for themselves in their daily conduct. Therefore the next step was to find some method to aid children individually in making their own decisions and in forming for their own use standards of healthful living, social relationships and emotional control. The five steps in problem solving, statement of the problem, collection of facts, evaluation of facts, conclusion and application were used to meet this particular need.

Through this method, teachers have been able to apply their new philosophy of health education. It is interesting to see how artificial teaching devices have been replaced by challenges growing out of real life situations during the school day. Teachers have found these problems so filled with rich and interesting teaching materials that they do not need devices. The children in the schools are actually living health every day instead of memorizing health rules which they may be violating each hour. One teacher was asked by a visitor to show some of her health work. Her reply was, "Look at the children."

As an outcome of this new venture in health education the classrooms present a happy and wholesome atmosphere. Children are growing through assuming individual responsibilities. They move through the buildings and over the playgrounds in a natural and self controlled manner. They are actually learning to work their way through their own difficulties with a high degree of success.

This type of health work does not present any spectacular aspect but grows and grows in the minds of the teacher and in the lives of the children. The teacher of a few years past who thought only in terms of teaching children health rules might spend an entire day in one of the classrooms without being conscious that any health teaching was being done. Instead of dressing up vegetables to adorn the space above the blackboard, the children are working on the selecting of vegetables as a part of their diet. "Clean hands" posters made by dirty, chubby hands no longer clutter limited wall space. The once popular health houses shingled with graham crackers and guarded at night by a mouse trap have been crowded out by teachers and children who are intent on building their own health houses. They are living health every day.

Teachers have now used this method three years, and they have met with difficulties, some of which have been solved. Many teachers do not have enough scientific information to handle certain types of health problems in the best way. Factual material on the child level is inadequate, and children become baffled sometimes in their search. Some administrators have not yet caught the vision.

However, after working on this experiment for three years in approximately 237 classrooms, including all the grades in the elementary school, there is conclusive evidence to prove its value as an effective method for teaching health in every grade.

NETTIE E. BROGDON,
Guilford County, N. C.

IMPROVING PERSONAL APPEARANCE THROUGH DAILY EXPERIENCES

WHEN SCHOOL opened last September the situation presented to the teacher an entirely new experience. There were forty children in the third grade, their ages ranging from 8 to 10 years. The children were about average in mentality. From the personal appearance one could easily guess the kind of home environment each child had. Some of the children's shoes and clothing were ill kept, buttons were off, clothes were soiled and patches were needed. A lack of shampoos and haircuts was evident. Nearly every child needed a good bath. The teacher recognized here an excellent opportunity for helping the children work out their own problems of personal cleanliness and neatness.

After the teacher and children had become acquainted with one another, they talked over together some of the things that would make their school year enjoyable as well as make their class pleasing to others. Various ideas were offered by the children, such as making the schoolroom an interesting and desirable place in which to live and making themselves more attractive. The group finally decided on the problem of personal attractiveness and went to work immediately to find out how they might make themselves more attractive.

A twenty minute period was set aside each morning in order that the children might have an opportunity to study and to improve their own appearance. After several informal group discussions the children and teacher worked out certain standards by which they might judge their personal appearance. These they put in the form of questions, such as the following: Did I have a full bath last night? Is my hair brushed and clean? Are my hands and finger nails clean? Are my clothes clean and neat? Are my shoes polished, laced and free from run-down heels? Are my stockings clean and free from holes?

Many live and pertinent health problems arose during this evaluation period each morning. At all times the children were encouraged to work out the solutions for themselves, the teacher remaining in the background. How they went about solving some of these problems is given here in detail.

The children started by talking over in class the taking of a daily bath. Their conversation included the following enlightening remarks: "My mother doesn't want me to take a bath every day." "We have no bathtub at home," "I can't use so much hot water." "There is no place for me to take a bath. In our house only one room is heated." A few difficulties were gradually selected to be worked on.

How often should one bathe the body? How can one bathe when there is no bathtub? How can one wash one's hands when the proper facilities are not always available?

The children knew it was necessary to get information before any

problem could be worked out. To gather facts on taking baths they collected material from various organizations and from simple reading material which was read during the reading period. The teacher gave helpful information to add to what they found.

These facts were talked over in class. Some children were chosen as a special committee to talk to the principal and to report his suggestions to the class. They asked the county nurse to talk to the class about why they should wash their hands before eating.

Children talked the matter over with their parents at home and brought information to the class. They also reported on what they had at home to use. Each child could then plan for what he knew he could do.

Information gained from different sources was compared. After the problem had been discussed informally, each pupil listed all the reasons why one should take a cleansing bath twice a week. The best reasons were selected and written on the blackboard after which there were lively discussions on the subject. These discussions resulted in a fine informal language lesson.

Actual experimentation through using the hand-washing facilities in the school helped to test facts.

After working for some time, the third grade group of pupils set up as their standard two cleansing baths each week and, in addition, a cool sponge or a shower or plunge followed by a brisk rub on arising. There were no bathtubs in many of the homes, so large wash tubs were suggested as a substitute.

The teacher worked with the homes in helping parents encourage and plan a way to give pupils an opportunity to practice the habit of bathing.

Soon there was a big increase in the number of pupils taking baths each week. Parents became interested in the activity and asked that a group of these third grade pupils speak on the subject at a parent-teacher meeting. Pupils reported that their little brothers and sisters were taking baths every time they did. The pupils from this grade made reports which grew out of this study to other classrooms in the primary grades. Provision was made for all pupils to wash their hands before lunch.

Attitudes toward personal cleanliness changed. There was an apparent gain in self respect. In addition the children learned that the body should be kept clean; that one should have personal washcloths, towels and toilet articles, and that certain methods are good for bathing and washing hands.

What is the best plan for shampooing the hair? What style of haircut is most becoming to each boy and girl? How can one manage to comb the hair at school? How can mirrors be obtained for the room?

The children asked one of the high school girls, who worked in a beauty parlor after school hours, to come into the room and actually to shampoo some of the children's hair. This showed a good way of doing it. Each child tried combing his hair several different ways. One of the larger boys in the upper grades, who had had experience in cutting hair, came to the room once a week to trim some of the children's hair. This gave new ideas. By looking in the mirror the children judged their own appearance.

Each child selected the most becoming style of hairdressing for himself. It was decided that one should shampoo the hair at least once every two weeks. In addition they agreed that brushing one's hair daily kept it in good condition. The children also felt that it would be a good plan to bring combs to school; consequently comb pockets were made in which the combs could be kept in a sanitary manner.

Each child used his own comb and brush. The hair was shampooed at regular intervals, and becoming hair cuts became popular. The children enjoyed having their hair clean, well cut and neatly

arranged and took responsibility for keeping their own brushes and combs clean.

What can be done to keep school clothes clean and attractive? This was the third problem. How may one care for one's clothing both at school and at home? How can one keep one's shoes attractive and in good condition? How may shoes be shined at school?

The children naturally asked their mothers for suggestions as to how clothes might be better taken care of at home. They noticed other children on the playground, street and at home who were neat and attractive. Different members of the group made original reports in writing. They discussed all their facts in group conferences.

It was decided that one could keep one's school clothes much cleaner if one changed them after school hours. In order to keep coats and hats in good condition, each child found it necessary to bring a coat hanger from home, which was used every day.

Sometimes a child's clothing needed a button; so several little girls took the responsibility of sewing on the needed button. Many children did not have shoe polish at home; so the children decided that it would be helpful if shoe polish and brushes were kept in the room. Certain boys were made responsible for keeping the shoes polished. All coats were hung on hangers when not in use. Children removed their school clothes when they went home in the afternoon.

In addition to these activities they put on a fashion show for other primary grades and gave talks on different phases of neatness and cleanliness.

Through this study the children learned to come to school with clothes as clean and as neat as possible; to choose appropriate wraps for outdoors; to remove wraps and rubbers when indoors; to avoid getting wet, if possible, and to remove damp clothing as soon as possible; to air clothing and shoes at night; to wear proper night clothing; to brush and polish shoes, and to lace shoes correctly.

The class as a whole took pride in personal appearance. They appreciated cleanliness and neatness in clothing as essentials of good living. They enjoyed being clean.

In addition they learned the kind of clothing that is suitable for different temperature and weather conditions and the reasons for removing or drying wet clothes. They learned also why tight clothing is harmful and the general characteristics of healthful shoes.

KATHLEEN DYER,
Guilford County, N. C.

A FIRST GRADE STUDIES CARE OF THE HAIR

THE FIRST grade teacher in one of the large consolidated schools in Guilford County decided to make health education a live activity through giving the children in the schoolroom real opportunities to practice health habits.

A suitable occasion soon arose. One morning a little boy came to school with his hair looking unusually well. He looked so attractive that the children remarked about it. They expressed a desire to have their hair look like his. By asking him questions they found that the child had shampooed his hair the night before and had brought to school the comb he had been using. The other children immediately wanted to bring and use their own combs while at school. This interest continued to grow until the entire group was actively engaged in making their hair "look nice."

As the class talked over all these things the children decided that they would like to know more about how they could make their hair look well. Here was a problem to consider. First they agreed on several questions that they thought needed to be answered: When should one comb one's hair? Where can the combs be kept? How often should one shampoo the hair? What is the best way? What is the most becoming way to comb the hair?

Then they undertook to collect some facts about the care of the hair. They asked questions of their parents at home. Some mothers became greatly interested and tried combing the children's hair in different ways to find a becoming style. At school the pupils talked about care of the hair, both among themselves and in the class group. The teacher read and told them stories, some of which were about animals that kept their babies' hair clean and smooth. Magazine pictures of persons with attractive hair were brought to school, and naturally they became the subject of conversation. The teacher wrote on the board the original stories which developed about these persons. Every morning the children used the classroom mirror to show them the results of their efforts.

Some ways were suggested to them of seeing what these facts were worth. The children made some decisions from their discussions of combing and caring for the hair. The following points were decided on: 1. Each child must use his own comb. 2. Hair must be brushed as well as combed. 3. Combs must be kept clean. 4. Hair can be combed whenever needed. 5. Hair must be shampooed frequently.

By trying various ways of combing their hair at home the children sc'ected, with their parents' help, a style that suited them. Each child was encouraged to adopt the most becoming style.

In the classroom some group activities resulted from what the children had found out. Since the combs were much alike, it was hard to keep them separate and some were lost. The children found they needed a place where each comb could be kept; therefore they made groups of comb pockets and hung them near the mirror. The only materials necessary were 1 yard of green oilcloth, 1 package of green bias binding, paste, paper and tacks. To make the pockets, the children cut four strips of green oil cloth, each strip 9 inches long and 6 inches wide. They bound the strips with bias binding and sewed them on a larger piece of oilcloth. These were stitched so as to form individual pockets about 3 inches long and 1½ inches wide, or wider. Each child pasted his name on his pocket.

The children wanted to tell other children what they had done. A picture party was arranged for the first grade children of another room. For this party, each child combed his hair in the best manner possible. They planned to use the pictures they had brought to school of men, women and children with well combed hair and to arrange them by families. Then they read and told stories about care of the hair to their visitors from the other first grade.

The following are samples of the reading charts made with the teacher's help and read by the children: "I want my hair to look nice." "I bring my comb to school." "I like to comb my hair." "Mother washes my hair every Saturday."

When the teacher thought over the outcome of the first grade study about care of the hair, she believed that the children had formed some important habits. They shampooed the hair more frequently; they combed it after playing or when-

ever it was necessary; they learned to clean their combs before putting them away and to use their own combs.

To the teacher it was apparent that the children had acquired through the study several desirable attitudes. One was a personal pride in keeping hair well combed; another was an appreciation for the neatness of other children in the room.

The teacher decided, too, that the children learned why the hair should be shampooed, why it should be arranged attractively and why caps and hats should not be worn while in the house. And best of all, the children had had the experience and the satisfaction of thinking it through and doing it themselves.

KATHERINE HARKEY,
Guilford County, N. C.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

IT IS no exaggeration to say that one of the major contributions to the teaching of health this year has been made by Jeanie M. Pinckney and her associates in a "Health Instruction Guide for Elementary School Teachers."[1] It is based on a careful study of the health problems of today, and from the point of view of the teacher it is constructive and practical. Since it has been tried out in actual school practice, it does not smell of the lamp or the easy study chair.

In the outlines for the various grades the spiral plan is advocated. The same problems are considered in each grade in relation to the changing interests and specific needs of the child. Objectives are clearly stated. Health objectives, according to the authors, include things to do, to know and to feel about healthful ways of living. While health facts are important, health practices and attitudes seem to have priority over knowledge. For example, a fourth grade boy may be able to get a grade of 100 on his knowledge of cleanliness; however, he may take only one bath a week and that under parental pressure, and he may actually prefer to be dirty rather than to be clean. While he has an "A" knowledge of personal cleanliness facts, he may have a "C" on practice and an "F" on attitude.

This study is filled with sound information about practical health education and contains detailed and specific suggestions that should be welcome to any grade teacher. It should be in the teachers' library of every elementary school.

SALLY LUCAS JEAN has been a globe-trotter and Grace T. Hallock is a talented writer of children's stories. They have collaborated in a delightful story book for children, "Spending The Day In China, Japan and the Philippines,"[2] which tells of the daily living of the children of far-away lands in the Orient. It is intended for children between the ages of 9 and 12, but older children would enjoy these fascinating stories based accurately on concrete facts. They have the subtle art of detaching the reader from his own environment and transporting him with ease to lands of growing grain, temples, pictures and poetry. One hears temple bells and catches views of caravans heavily laden, carrying their precious burdens. And through it all one makes new friends who, like all children, wake up, dress, eat, play, go to school and live what for them are normal lives. Both Miss Jean and Miss Hallock have distinguished themselves in the field of health education, but there is nothing in this volume to indicate that it is a health book. It was evidently written for fun, but the clever teacher will find in it many lessons on health, lessons that will be intriguing to boys and girls who wish in imagination to cross the seas and live in strange lands.

THE MODERN teacher of health needs to know something about elementary diagnosis. It is not expected that the teacher shall have a medical training or shall decide finally on a definite diagnosis or prescribe treatment. This is obviously the work of the trained physician, but in order that the children may receive the attention of the school and family physician, every teacher should be able to recognize a normal condition of health and to notice those children who depart from this norm. More and more as time goes on will the teacher do this kind of screening for the school doctor and school nurse.

"Normal and Elementary Physical Diagnosis,"[3] a volume on elementary physical diagnosis, is intended primarily for teachers of physical education, but it would be a helpful book of reference for all teachers. The illustrations are especially good.

"CHILDREN at the Crossroads"[4] is another tribute to the Commonwealth Fund of New York as a pioneer in child health and in preparing such reports of its work that they become fascinating even to the most casual readers. This is the story of the visiting teacher at work in rural districts. In reading this story "we follow the teacher along winding country roads, roads which lead past white grange halls, small steepled churches and comfortable farms—past many scattered schoolhouses and through small hamlets and villages—and we learn from the stories of actual children at the crossroads what has been done to help solve their problems." The narratives in the book are intriguing.

Among the titles are "School versus Crops" and "Arithmetic Among the Strawberries." This would be an excellent reference for classes in psychology and mental hygiene and interesting for teachers in service.

DR. GILKEY does not pose as a psychologist, but he has been unusually successful in writing a helpful book which has a sound psychologic basis. The subject deals with one of the most important things in life—"Managing One's Self."[5] This is so much a part of the fine art of living that he who does not possess it loses everything in life worth while.

Dr. Gilkey offers first aid in the solution of some ten common problems of life. They have been drawn from experience rather than from imagination.

Among these experiences are the habit of expecting recognition and commendation whenever one does anything praiseworthy, mastering an inferiority complex, maintaining one's composure, keeping enthusiastic about one's job and controlling one's moods.

This book is not intended primarily for teachers, but it is one that they may read with profit. It is a part of their business not only to manage themselves but also to teach their pupils the same skill. One of the best ways to do this is first of all to cultivate self management themselves. Dr. Gilkey makes one feel that every one is striving to attain a life that is satisfying and that if one applies principles of personal engineering to one's problems, one is indeed bound to be successful.

The book is so good that it is hard to believe that any one could read it without deriving inspiration and guidance.

1. By Pinckney, Jeanie M., M.A.; Miller, Alice H., B.S., and Pettus, Nancy, H., B.S. Pp. 368. Austin, Texas: Bureau of Nutrition and Health Education, Division of Extension, University of Texas, 1932.

2. By Jean, Sally Lucas; and Hallock, Grace. Price, $2. Pp. 210. New York: Harper & Brothers, 1932.

3. By Morrison, Whitelaw Reid, A.M., M.D., and Chenowith, Laurence B., A.B., M.D. Price, $4. Pp. 376. Philadelphia: Lea & Febiger, 1932.

4. Children at the Crossroads. By Agnes E. Benedict. Pp. 238. The Commonwealth Fund Division of Publications, New York, 1930.

5. By Gilkey, James Gordon. Price, $1.75. Pp. 238. New York: The Macmillan Company, 1932.

DRINKING WATER

as it is procured in far-away countries

A well serves a peasant family of Slovakia with drinking water, in the picture above.

Girls carry water in huge jars in the Philippine Islands.

Coolies supply the main "water works" for the city of Chungking, China. Poor water all over China accounts for the popularity of tea in that country.

Women are water carcariers on the banks of the irrigation canal near Memphis, Egypt, in the picture to the right.

Ewing Galloway

NEW BOOKS ON HEALTH

CANCER: THEN AND NOW

American Society for the Control of Cancer. Pp. 80. New York: The Chemical Foundation, Inc., 1932.

AS AN AID to the control of cancer, The Chemical Foundation has made available a series of charts indicating the present knowledge of cancer and associated therewith statements from leading physicians as to the nature of cancer, the problem of its diagnosis and control. The material is succinct and authentic, and as collected it constitutes a valuable source book for those seeking information in this field. The volume is planned particularly for circulation in New York City and vicinity, listing the hospitals and clinics and the available sources of information on cancer in that area.

MORRIS FISHBEIN, M.D.

HYGIENE: A TEXTBOOK FOR COLLEGE STUDENTS

WITH SECTIONS ON ANATOMY AND PHYSIOLOGY, PATHOLOGICAL CONDITIONS AND MENTAL HYGIENE. By Florence L. Meredith, B.Sc., M.D. Second edition. Price, $3.50. Pp. 837, with 230 illustrations. Philadelphia: P. Blakiston's Son & Co., 1932.

THIS EDITION of Dr. Meredith's book has been rearranged and rewritten in many respects.

As one reads it and notes its many points of superiority, one is particularly impressed with the fact that it is sound, sane, practical, brief, balanced, definite and well organized. It sets up health as an ideal without making it a fetish. It leaves the choice of striving for health as an end or as a means to other ends without ever encouraging morbid and introspective attitudes or the development of neurasthenic tendencies.

It sets forth a fine conception of preventive medicine, both public and personal, pointing out that health, like disease, may be acquired. It emphasizes the fallacy of depending on instinct, habit, experience or analogy for guidance toward health when there is knowledge to be had.

Each of the chapters is excellent in its concise summary of the topic under consideration. Particular mention perhaps should be made of the chapter on physical examination for the apparently healthy and the one on choosing medical care when ill. Dr. Meredith has made a happy choice in dealing with quackery, not as a separate topic, but in its relation to each of the other aspects of health.

In the chapter on neglect of health she gives a detailed catalog of those guilty of negligence.

The section on anatomy and physiology is splendid. It is doubtful whether Dr. Meredith had any such intention in mind, but it seems that, regardless of intention, she has produced a book that is the nearest approach to a satisfactory "family doctor book" that I have seen.

The chapters on communicable disease and immunity are not only scientifically excellent but are so phrased that any intelligent adult can understand them.

The brief completeness with which the various topics are handled is well illustrated by this quotation from the chapter on first aid: "Heat Stroke and Heat Exhaustion—in the former the temperature rises, and the body is flushed and hot. The remedy is to cool it. In the latter the body is pale and weak. The remedy is warmth and stimulants. Both are more common in the aged, the feeble, the underfed, the overfed, and alcoholics. An excess of clothing predisposes to bad effects from heat, especially while doing hard work or exercise, or in combination with the other factors mentioned."

Chapters on exercise, food and nutrition, sleep and rest, skin, mental hygiene, sex, personality and social adjustment are all on a high plane of excellence. Tables of chemical compositions and caloric values of American food materials and tables of 100 calorie portions as well as an illuminating and amusing table of extra foods, such as chocolate bars, soda fountain dainties and candies, round out the work.

Teachers, nurses and students will find the text invaluable. It may well have a place in every household in which an intelligent and practical conception of health is desired.

W. W. BAUER, M.D.

MIDDAY MEALS FOR THE PRESCHOOL CHILD IN DAY NURSERIES AND NURSING SCHOOLS

Compiled by Mary E. Sweeny and Charlotte Chatfield. Pp. 46. Washington, D. C.: Department of Agriculture.

THE FOOD VALUE of typical nursery school menus and recipes, in terms of the chemical composition of each child's portion of every dish, is the important contribution of a recent publication of the U. S. Bureau of Home Economics. The title is "Midday Meals for Preschool Children in Day Nurseries and Nursery Schools," and the authors are Mary E. Sweeny, assistant director of the Merrill-Palmer School, Detroit, Mich., and Charlotte Chatfield, specialist in foods and nutrition in the Bureau of Home Economics. As the title suggests, the work is intended especially for persons responsible for feeding groups of preschool children one or two meals a day, but it should be helpful in meeting the similar questions arising in hospitals and other institutions and the question of food selection in homes where groups of young children must be fed.

In a pamphlet of 46 pages, the authors devote two thirds of their space to a tabulation of the chemical composition of the ingredients of recipes, in calories and in grams of protein, fat, carbohydrate, calcium, phosphorus and iron. They include also a brief discussion of food standards for children and of factors affecting the child's food intake, such as appetite, food habits and the mechanical problems involved in the child's manipulation and mastication of his food. Variations in the cost of menus are discussed, also, and examples of high and low cost menus for different months are given.

The pamphlet is issued as Circular No. 203 of the Department of Agriculture and is obtainable free on request as long as the supply lasts.

GENERAL SCIENCE FOR TODAY

By Ralph K. Watkins, Ph.D., and Ralph C. Bedell, A.M. Cloth. Price, $1.68. Pp. 653. Illustrated. New York: The Macmillan Company, 1932.

THE AUTHORS have expressed the hope that pupil readers will find the reading attractive enough to be encouraged to read "in large wholes."

And why not, indeed, when man's use of rocks and minerals is directly related to coal mining, limestone and marble and the use of these every-day substances in every-day life? Why not, when chemistry is illustrated with a list of common chemicals, including their common names, chemical names, formulas, characteristics and common uses? Why should not the pupil be stimulated to read when man's control of light energy is translated into a story of lamps from the ancient vegetable oil lamps to the modern electric bulb, and all in an interesting and practical fashion? In addition the authors did not forget the home motion picture camera and the projector which would interest any normal boy. Why should not the reader be interested when electricity is treated in terms of automobile storage batteries, electric motors in the home and the radio in the living room? Why not, when physics of sound brings reference to the modern talking picture, when vitamins and sunshine are illustrated with attractive photographs and definitely related to every-day things that boys and girls can see and touch, when conservation is brought right down to the balanced aquarium, the covered garden in a glass bowl, bird baths and bird refuges?

In addition to making the book attractive to the student, the authors have made it exceedingly useful to the teacher, who will find that it is a storehouse of valuable material.

It is built of fourteen units with a good index. Introductory to each unit is a brief summary consisting of an enumeration of unit problems and a few paragraphs about what one may expect to find through a careful perusal of the material contained in the unit.

Following the chapters are lists of "learning activities," consisting of experiments for teachers or students or both, and observations to be made in and out of the classroom. At the end of the unit are suggested readings and source lists of bulletins and pamphlets.

This is a textbook on general science which should be valuable in the high school or junior college and might, indeed, be worthy of reading by adults with an intelligent interest in what science contributes to their daily life and surroundings.

W. W. B.

HOW TO LIVE

By Irving Fisher and Eugene Lyman Fisk. Price, $2. Pp. 371. New York: Funk & Wagnalls Co., 1932.

THIS BOOK has passed through the nineteenth edition and must, therefore, meet a definite need. The publishers call attention to the fact that more space is devoted now to the consideration of air and food, tobacco and posture; that the statistics have been brought up to date; that the book now recommends smaller consumption of meat and greater consumption of vegetables, and that there is also new material on the regulation of weight, mental hygiene, eugenics and organic disease.

In general this book is to be recommended. Specifically so far as concerns what might be called notions rather than established scientific facts, it cannot be recommended as a scientific work. The section on tobacco emphasizes the views held by Irving Fisher and John Harvey Kellogg, a position which they share practically alone. There is reference on page 49 to the subject of fads in foods, but the authors have not themselves been free of such fads in their recommendations. They seem to hold the view that two or three bowel actions daily are better than one, and they would modify the diets of all of us to meet this requirement. Here again there is little scientific evidence to support the recommendation.

The book is definitely associated with the work and the propaganda of the Life Extension Institute. There is a large Hygiene Reference Board whose names are quoted and thus lend support to the promotion of the volume. It would be interesting to find out how much the members of this Hygiene Reference Board had to say in the editing of the volume and the views they present. This point is mentioned particularly because the preface to the nineteenth edition states that the book represents the opinions of the Hygiene Reference Board as well as those of a number of authorities cited in the preface; the reviewer knows personally that many of these authorities and members of the Reference Board disagree with some of the views expressed in the book.

M. F.

MILK PRODUCTION AND CONTROL

Report of the Committee on Milk Production and Control, H. A. Whittaker, Chairman. White House Conference on Child Health and Protection. Price, $3. Pp. 392. New York: Century Company, 1932.

THE PLAN of this book includes consideration of milk from the following points of view: diseases transmitted through its agency; public health supervision; nutritional aspects; adequate diet and its relationship to milk; processed milks, such as pasteurized, sweetened, condensed, evaporated, dried and malted; the supplementary value of milk in the child's diet; milk formulas; the economic aspects of milk, and general conclusions and recommendations.

The volume is essentially a source book, as will be apparent from the fact that almost 20 per cent of its 355 pages is devoted to bibliography.

It is a book that has brought together much material about milk which has been scattered through medical, biochemical and public health literature. As a manual for the milk inspector, the health officer, the public health nurse, the nutritionist or the dairyman, its value can scarcely be overestimated.

It states without compromise that pasteurized milk "serves the same purpose as raw milk. Not only is it practically the nutritional equivalent of raw milk with the one exception of a slight deficiency of Vitamin C, but it has the added virtue of safety." This is important at the present time when economic considerations threaten to outweigh those of safety and when milk of dubious origin and quality is being bootlegged on the outskirts of large cities until health officers who find themselves helpless to prevent such circumvention of milk ordinances have been moved to real concern.

The conclusion is reached that cities, and especially large cities, have safer milk supplies than small communities and rural regions.

It is to be regretted that this excellent volume does not refer more than casually to the certification of milk and to medical milk commissions in their economic, sanitary and nutritional relationships to milk production.

W. W. B.

QUESTIONS AND ANSWERS

Pasteurization of Milk

To the Editor:—I understand that pasteurization does not destroy bacteria in milk but only temporizes their activity for a short period of time. I have also been told that pasteurization partially destroys the food value of milk. Are these statements true?

M. L., Oklahoma.

Answer.—Milk is not a complete food as it is often represented. It lacks a number of elements and particularly vitamin C, which is present in only a small amount. Milk is produced in an environment in which bacteria are prevalent and particularly three types which are detrimental to the health of human individuals; namely, Bacillus tuberculosis, Brucella melitensis, and the organs of the colon typhoid group. Bacillus tuberculosis produces a special type of tuberculosis, involving principally the bones, glands and digestive organs. Brucella melitensis is the causative agent of undulant fever in the human being and of contagious abortion in cattle. The organisms of the colon typhoid group produce various types of intestinal infections, especially in children.

The handling of milk may result, under certain conditions, in the introduction of other germs, such as those of diphtheria, scarlet fever or other diseases from which the milk handlers are suffering. Even the most rigid precautions sometimes fail to prevent the introduction of disease into milk, as evidenced by the fact that of all epidemic outbreaks in the United States traced to milk, more than 90 per cent are due to raw milk; where occasionally pasteurized milk seems responsible, there is always a question as to the efficiency of the pasteurization. From the standpoint of safety, therefore, it is apparent that pasteurization is necessary.

The inquirer raises the point that pasteurization does not destroy bacteria in milk. It does not destroy all the bacteria, but it does destroy those capable of producing disease. By pasteurization is meant effective pasteurization, which is usually defined as the maintenance of the whole volume of milk continuously at a temperature not less than 142 F., for not less than thirty minutes, and its prompt cooling thereafter to below 50 F. Of course, milk that has been pasteurized must be protected against subsequent introduction of germs, but this is a vastly different matter from the statement that pasteurization merely inhibits bacterial growth temporarily.

Finally, pasteurization does not interfere with the food value of milk. It is true that overheating may throw out of solution a small amount of casein and mineral salts, but this is negligible. The only important effect of pasteurization on the food value is the destruction of vitamin C, but since milk originally did not contain enough vitamin C for an adequate supply, tomato juice and orange juice must be given to babies.

Cancer

To the Editor:—I have your catalog of medical and health publications, but in it I do not find any treatise on the new serum treatment of cancer. Please advise me.

L. E., Iowa.

Answer.—There is a good reason why the catalog of the American Medical Association does not contain any material on the "new serum treatment of cancer." The reason is that no serum treatment for cancer has been developed to a point where it is to be relied on. There are a number of cancer treatments of an experimental nature, which have been announced from time to time, but none of them has demonstrated its efficacy.

From a reading of the pamphlets, "What Everyone Should Know About Cancer," by Dr. J. C. Bloodgood, and "Fight Cancer with Knowledge," by Dr. Ludvig Hektoen, the inquirer may derive an excellent understanding of the present status of the cancer problem.

One must not be misled by claims for cancer cures. There is at this time no cure for cancer except early discovery followed by surgical removal, and in certain cases supplementary treatment with radium or the x-rays.

Any other alleged cancer cure is being exploited either through mistaken enthusiasm or with deliberate intent to deceive.

Enlarged Liver—Heart Disease

To the Editor:—I am told that hardening and enlargement of the liver can come from heart trouble. Please explain whether this is true. Is there anything that can be done for a case from that cause? Does it ordinarily cause the person's death, and in about how long a time, if the condition has advanced far enough to cause swelling and tenderness in the abdomen? Could swelling of the feet and the ankles be concomitant with this condition? Can anything be done for an enlarged blood vessel on the side of the nose?

R. A. B., California.

Answer.—Enlargement of the liver is a common symptom of certain stages of heart disease. A diseased heart depends for its functioning on the reserve power in the muscle. When this is overtaxed temporarily or permanently, it fails, and this failure is known as decompensation, or heart failure. If the heart failure is not too extensive, recovery is possible; but when it is severe or repeated, the time comes when the reserve is exhausted and there can be no recovery.

Enlargement of the liver is only one of the symptoms of failing circulation; swelling of the feet and ankles is another. These symptoms are all due to one cause; namely, the inability of the heart to keep the blood moving through the blood vessels and the tissues. The tissues then become waterlogged. The treatment of such a condition demands the expert care of a physician. The first essential is absolute rest. Certain drugs are useful under certain conditions which the doctor will understand.

An enlarged blood vessel on the side of the nose can be treated only by destruction with one of the newer electrical methods. Whether this is practicable or desirable depends on the size of the objectionable blood vessel, the size of the scar which it is liable to leave and other conditions which only the doctor who has seen it can ascertain.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Hernia

To the Editor:—I am contemplating having a small hernia taken care of in the near future. The hernia is on the right side in the groin. I wish to obtain information in regard to the injection or ambulant treatment, as it is called, in which drop doses of a chemical are used to cause an irritation, followed later by the formation of scar tissue and adhesion, eventually obliterating the canal. I should like some further information in regard to the dangers of the treatment, if any, and the chances of success. Would a chronic appendicitis contraindicate the use of the injection method? I do not know definitely that I have a chronic appendicitis, but last year I had an x-ray examination made, and the letter of diagnosis with the plates stated that the barium was all in the rectum in twenty-four hours, except for the filling of a rather long kinked paracecal appendix.

E. W. K., Illinois.

Answer.—Before the modern radical cure of hernia was extensively employed in this country, the injection treatment of hernia had been quite extensively advocated and used. It was employed at the old Marine Hospital in Chicago in about a dozen cases. The method used was known as the Heatonian method. It consisted of injecting with a specially constructed syringe a solution of white oak bark along the tract of the hernial sac and the inguinal canal, the idea being that this irritating injection would produce an obliteration of the hernial sac and a contraction of the tissues about the inguinal canal with resulting cure of the hernia. After the injection the patients were kept in bed for two or three weeks, and as a rule when they first got up the hernia did not come down, but in most cases it recurred within a short time. The method has practically no value in modern scientific surgery and should never be employed. The modern aseptic operation for radical cure of hernia has been so perfected that it gives admirable results in more than 95 per cent of operable cases. It is, moreover, safer than the injection method, and in cases in which the patient is not satisfied with the retention of the hernia with a truss, it is the proper procedure today. The operation can be done either under gas or under local anesthesia and entails little or no risk, certainly much less risk than any form of injection method.

In the condition described as chronic appendicitis, careful analysis sometimes shows that the symptoms are produced by some bowel condition and not by the appendix. Before submitting the patient to operation, modern scientific surgeons today insist on having quite definite evidence of an acute attack of appendicitis or at least the history of an inflammatory condition in the appendix which gives rise to quite definite symptoms. The filling of an appendix from the barium solution injected into the colon or the lack of filling seldom warrants the diagnosis of a lesion of the appendix.

The inquirer should be sent to a thoroughly competent medical or surgical diagnostician and should be warned against having the hernia treated by the injection method and the appendix removed simply because it is visualized by a barium meal or a barium injection into the colon.

Loss of Hair; Colds; Food Combinations

To the Editor:—What is good for preventing the loss of hair? I catch colds easily and also perspire freely and would like to know what I can do to check this. I should like literature on baths for health and on correct food combinations.

M. K., Ohio.

Answer.—The loss of hair can be prevented only by ascertaining the cause and applying the proper treatment in time. If the cause is local inflammation of the scalp, it can sometimes be stopped and the loss of hair checked; there is even a reasonable expectation of new hair growth if the follicles have not been destroyed. If the loss of hair is of the hereditary type, no treatment will help.

Only a careful physical examination by a well qualified physician can determine the cause of the susceptibility to colds. After the cause has been ascertained and, if possible, removed, the doctor can prescribe such hygienic methods as the physical condition of the patient requires.

It is neither possible nor desirable to check perspiration. The normal person requires baths for cleanliness or enjoyment, and the person who is sick requires baths for special therapeutic purposes which can only be ascertained by the physician who is in charge of the case.

Correct food combinations consist in eating moderate quantities of good food in ample variety, well cooked and attractively served. No attention should be paid to the faddists who claim that certain combinations of foods are not healthful. All good foods are healthful, and no food has any magic health qualities. This applies, of course, to well individuals; sick persons may require special diets, but these must be prescribed by a physician who is thoroughly familiar with the case.

Eyes—Double Vision

To the Editor:—I am 30 years old. The early part of July last year, I noticed that I saw things double, the trouble growing worse gradually until now my eye remains in toward my nose, and not only do I see things double but crossed as well. I have been to many eye doctors but they are unable to help me, only giving me a frosted glass which I feel has made my eye worse, although it does make me more comfortable. Some doctors say exercise is the only thing for it. Others say it will not do any good. I have had an infected antrum opened without any relief. I am told that eventually I will have to be operated on but that the operation is not always successful and that more or less trouble will ensue. What sort of an operation would be required? Is it serious? Would the results be satisfactory? Will you tell me why my glasses will not help me? Why do they give them to cross-eyed people? I have had blood tests and neurologist's tests. In fact, every ground has been checked without any underlying cause being discovered to explain the condition. Please give me all the information possible.

M. L., New York.

Answer.—It is quite obvious that this patient is suffering from a paralysis of the external rectus muscle. It is apparent that she has undergone thorough examinations and that the etiologic factor has not been determined.

The operative procedure which may be undertaken in this case consists of shortening the paralyzed muscle in an attempt to direct the eye forward. This procedure, if successful, would eliminate a considerable amount of double vision of which she complains. However, the patient will not be able to rotate her right eye to the right, so that any attempt to focus on objects to the right of the midline would again cause double vision because the left eye, not being paralyzed, would rotate normally to the right.

A prism base-out placed before the right eye will also tend to overcome the double vision which becomes manifest in focusing objects to the right. Such procedures, while not curative, are of considerable assistance to patients suffering from such a condition.

Glasses are frequently helpful and often tend to straighten crossed eyes, when the crossing of the eyes is not a result of paralysis. In cases of paralysis, they are of no value except as previously explained.

Though the operation that has been recommended by some of her doctors cannot possibly cure the condition, it will be of material benefit to her.

Teeth

To the Editor:—I am 33 years of age and the mother of two children. Immediately following the birth of my last baby, two and one-half years ago, my teeth began to show ridges and hollows. They did not decay at all, but the enamel seemed to be literally melting off them. One dentist said it was the result of too much brushing and harsh tooth paste. I have since used a soft paste and am careful in brushing. Another dentist says it is the result of acidity, and in his opinion, once this "washing-out" process has started, nothing can stop it. As I have always had well formed, white teeth, I am worried. Although my teeth are heavily filled in the back as a result of cavities which formed in my early youth, the front teeth were perfect to the eye until they began to wash out. I have taken cod liver oil for two winters. I drink a pint of milk daily, have 5 ounces of orange or tomato juice daily, eat plenty of salads and avoid excessive sweets. I also rinse my mouth with milk of magnesia before retiring. Still my teeth are literally melting away, and the lower ones are now becoming quite tender to pressure on the enamel. Also during the past two years I have suffered from rheumatism. How can I improve my mouth condition?

M. C., Canada.

Answer.—The causes of dental caries and changes in the gums (pyorrhea) are not thoroughly understood. It is believed that these changes are due to vitamin deficiencies in the diet. The gum changes (bleeding, sponginess and pus formation) are attributed to deficiency in vitamin C; this vitamin occurs in abundance in oranges, lemons, grapefruit, tomatoes and green vegetables. Five ounces of orange or tomato juice, which you have been taking daily, should be sufficient.

The "washing out" process is an early type of dental caries. These changes are usually attributed to faulty calcium metabolism. In pregnancy and lactation there are excessive demands on the mother for calcium. It is possible that the calcium supply in the food may be deficient or the calcium may be poorly absorbed from the intestines. If the stomach does not secrete a proper amount of acid, absorption will be poor. A gastric test meal will show whether the stomach is producing acid. If acid is absent, diluted hydrochloric acid may be taken by mouth. The administration of vitamin D, which is present in cod liver oil (1 tablespoonful) or in viosterol 10 D in cod liver oil (1 dessertspoonful), facilitates the absorption and utilization of calcium. Phosphates interfere with the absorption of calcium; consequently, an excess of calcium should be taken. Usually a pint of milk is sufficient, but it may be necessary to raise this to a quart each day.

The calcium in the blood may have a normal value and yet dental caries may exist. If, however, a low content of calcium exists in the blood, it is obvious that this should be brought to a normal level. Ultraviolet radiations, more intensive administration of vitamin D (viosterol 250 D) or parathyroid extracts are useful in raising blood calcium.

Finally, the patient should have any foci of infection present within his body removed. If devitalized teeth are present, these should be extracted even though they do not show x-ray evidence of disease.

These dietetic suggestions may be summarized as follows: Every day the patient should have cod liver oil (1 tablespoonful) or, preferably, 1 dessertspoonful of viosterol in cod liver oil; two eggs; a serving of meat, fowl or fish (liver, kidneys and sweetbreads are especially valuable); 1 quart of milk; 6 ounces of citrous fruit juice or tomato juice; a salad; two servings of cooked vegetables, and 1 ounce of butter. After these are eaten, whole wheat bread and additional foods may be taken as desired.

Sacral Plexus—Transversectomy

To the Editor:—I wish to learn something of transversectomy and of the latest developments in relief for injuries to the sacral plexus. What success has there been in the spinal stretch or manipulation under anesthesia?

J. G., Oregon.

Answer.—Undoubtedly, the inquirer refers to pain in the low back, radiating to the buttock or down the thigh or leg. While this may indeed result from injury or strain of the spine in the region of the "small of the back" or at the junction of the sacrum with the pelvic bones, many other factors may be present. Of prime importance in relief is a correct diagnosis and an evaluation of the various possible causal factors among which may be mentioned strain, caused either by a definite single injury or by habitual faulty posture; chronic systemic infection caused by tonsils, teeth or other organs, and variations from the normal in the anatomic formation of the spine, as shown by x-ray. In connection with posture, the possibility of flatfoot should not be overlooked as an important causal factor. Measures for relief vary with the cause.

Transversectomy, or operative removal of one of the bony prongs projecting from the sides of the lower vertebrae, is indicated rarely indeed, but manipulation under anesthesia in competent hands is frequently productive of good results. In many cases correction of faulty posture, supplemented by a suitable appliance such as a belt or corset, is of value.

Muscular Rheumatism

To the Editor:—Is muscular rheumatism ever mistaken for undulant fever? How can muscular rheumatism be accurately diagnosed? What tests are made? What can be done for it? For two years, I have had what seems to be muscular rheumatism. Severe pains shoot across the back below the waist-line and are also felt on each side of the upper portion of the chest. They seem to come from under the arms. There is also pain in the shoulders and in the lower part of the abdomen. It is hard to relieve this for any length of time. If I perspire freely, the condition improves but usually returns again the next day. My tonsils were taken out years ago; no trace of them is left. X-ray examinations of my teeth have been carefully made from time to time. I am just past 30. The pains described come on at intervals but are always severe in cold and rainy weather. How can the calcium supply of the body be determined? Does an insufficient amount of this ever cause muscular rheumatism?

M. E. M., New York.

Answer.—It is possible that muscular rheumatism might be mistaken for undulant fever. It should be possible, however, to differentiate between them by examination of the blood.

Muscular rheumatism must be diagnosed by clinical observation. There are no tests which will identify it. The treatment of muscular rheumatism depends on the removal of the cause if the cause can be ascertained. This is sometimes impossible and seldom easy.

The sources of infection in cases of muscular rheumatism are usually sought in the teeth, tonsils, ears, nose, accessory sinuses of the head and sometimes in the appendix, the gallbladder and the intestinal tract. As previously stated, it is not always easy to identify the source, and unfortunately when the source is identified and removed recovery does not always follow.

In addition to the removal of the cause of the infection when possible, general hygienic measures, involving diet, fresh air, rest and regulation of exercise are needed.

The calcium supply of the body can be determined by an examination of the blood. So far as general metabolic conditions may influence rheumatism, deficiency in calcium supply may be involved.

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If you are mentally and physically fit, you will be ready to take advantage of your opportunities in 1933 and the years to follow. If you are sick or run-down, you will find it very difficult to think clearly and to decide wisely. If your doctor should find something wrong which can be corrected, you can profit by the timely warning. If, however, he reports you to be in good physical condition, you will be glad to know it. It will be a tonic to your spirits and give you added confidence in yourself. You will tackle your problems with keener interest and greater capacity.

After you have done everything you can do to become fit—keep fit so that your dividends from health will be uninterrupted. Send for the Metropolitan booklet, "Health, Happiness and Long Life" which tells simply and clearly the fundamental rules of intelligent living habits.

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Seat and Desk Heights for School Children

To the Editor:—In the article, entitled "A Youth-Conducted Health Conference," by Bernice Elliot in HYGEIA for June, 1932, there is a statement that correct seating can be determined by using two sevenths of the child's height for the seat measurement and three sevenths of the height plus 1 inch for the desk measurement. We have the movable type of desk. The children have been seated comfortably, but the figures do not coincide with those cited in Miss Elliot's article. Is something wrong with the desk itself or with that measure? Will it fit only certain types of desks? My principal is interested in this matter, as it was thought that a numerical measure of that type would be a fine thing for teachers.

H. W. J., New Jersey.

Answer.—The figures for adjusting seats of school children, given in the June HYGEIA article, entitled "A Youth-Conducted Health Conference," were published about eight years ago in the *American School Board Journal* (Anderson, H. W.: Problem of School Supplies and Equipment [July] 1924). The seat height was two sevenths of the standing height of the pupil, and this is generally believed to be the maximum height desirable in practically all cases. Wood and Rowell in "Health Supervision and Medical Inspection of Schools" and C. E. Bennett in "School Posture and Seating" state that for most pupils a more desirable seat height is 2 or 3 inches lower than that which permits a right angle knee bend without pressure behind the knee. In the schools described in the HYGEIA article cited, the general measurement is "seat height equal to two sevenths of the pupil's height minus 1 inch."

The problem of desk height is more difficult because the elbow height does not give a constant ratio to seat height but varies, according to Bennett, from 1.33 to 2.22 with a mean of 1.594. The seat height multiplied by this mean ratio of 1.594 is approximately three sevenths of the pupil's height plus 1 inch and, therefore, this figure has been used in generalization regarding desk height. These figures, therefore, cannot be used with any great degree of satisfaction, but, even so, they usually give better results than the usual teacher-pupil effort to select a desk of "comfortable" height. A desk of satisfactory height may generally be described as one that allows the elbows to rest at right angles on the edge; the chest should be up and the shoulders even.

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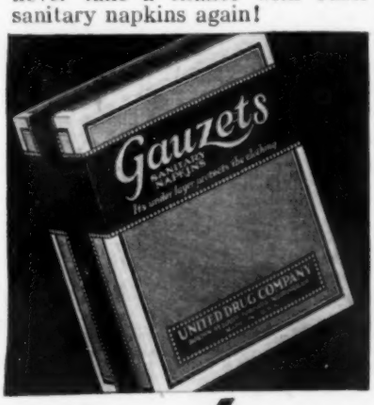

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■ Fat, happy babies, who sleep serenely and grow strong, cannot get their proper start from a mother whose nerves are upset. She does not absorb her own nutrition well; she cannot pass it on properly to baby. Every care should be given to nerves during this period.

Watch your caffeine. The caffeine in ordinary coffee whips the nerves, forces the heart-action, induces a poor quality of sleep. Try dropping it out of your diet.

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Buy Kellogg's Kaffee-Hag Coffee from your grocer. Or, send 15 cents in stamps for a can and a booklet on coffee and health. Use this coupon.

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Please send me a can of Kellogg's Kaffee-Hag Coffee (97% caffeine-free) and booklet. I enclose 15c in stamps.

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Kidneys

To the Editor:—Please inform me whether there have been any articles in HYGEIA on renal diabetes. D. L. B., Ohio.

Answer.—The term renal diabetes is incorrect, though it is sometimes used. Diabetes is commonly conceived as a condition in which sugar appears in the urine, whereas the true conception of the disease is that it is a disturbance of the utilization of sugar in the body, with appearance in the urine only in certain stages. The deficiency is in the pancreas and specifically in the islands of Langerhans, which secrete the hormone, now known as insulin, responsible for sugar metabolism.

Renal glycosuria, to call it by its correct name, is a different condition altogether. Here there is simply the appearance of sugar in the urine, which accounts for the name. There is no disturbance of the sugar metabolism. Athletes frequently have it after and during strenuous effort. Any one is liable to have it after taking large amounts of sugar. Normal persons may have it during digestion. It may run in families; certain drugs can produce it; it may be part of the symptomatology of brain disease or acute infectious fevers. It does not seem to do the kidneys any harm. It represents an inability of the kidney to retain the sugar in the blood at normal levels, whereas in true diabetes, even with no sugar in the urine, the blood sugar level is high.

There is no literature on this disease, at least none written for the perusal of the layman. The condition is relatively uncommon. A physician should be consulted to be sure it is renal glycosuria, which is relatively harmless, and not the dangerous true diabetes.

Artificial Leg

To the Editor:—Kindly inform me as to the durability and price of aluminum artificial legs. H. S., Pennsylvania.

Answer.—Hardened aluminum (duralumin) is used for braces, but where there is much strain it cannot be relied on. The only advantage which it possesses is its lightness, but it easily loses its shape. The price of these limbs is usually higher than that of artificial limbs made of steel and wood or steel and papier maché. If the joints in an artificial leg could be made of steel, the body of the leg could easily be made of aluminum. The parts that receive the strain of weight-bearing and walking must be made of steel.

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VANTA Self-Help Garments are so scientifically constructed that the average child *of two years* can dress himself in these wonderful garments without your help! No wonder mothers everywhere are demanding Vanta Self-Help Garments for their little folks!

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Here at last are garments with buttons and button holes made especially for tiny fingers! At last the seat of union suits and sleepers can be raised or lowered—by the child himself—by merely fastening or unfastening one *front* button. Furthermore a red "Valentine" heart label, attractive to Baby, *always* marks the front and outside of these wonderful garments, making it so easy to teach Baby to dress himself.

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Water Supply

To the Editor:—I have a well about 40 feet deep. The water is cool and clear, but tests show that it is not safe. Can you tell me how to treat it so it will be safe? W. C. R., Arkansas.

Answer.—The water from an unsafe well can be rendered safe by boiling before using, but that, of course, is a nuisance. Temporarily, until the problem of the well is solved, the boiling should be done to assure safety.

As to the well itself, the source of the pollution must first be discovered. One may judge, from the depth, that the reference is made to a dug well. If so, the pollution may come from the drainage of surface water into it through the top or through an imperfect casing. If this is true, better protection is the answer. This means a concrete top, a pump that works without priming, and drainage of waste water away from the well. Perhaps a new casing is also needed.

The pollution may be in the deep layer of water from which the well draws its supply. If the pollution is in the source, then the inquirer has no recourse except to drill a well to deeper water, preferably through the first layer of bed rock. It would also be well to look to the drainage of the privy or cesspool and to that of neighboring conveniences of like character.

A letter to the state board of health might bring a publication explaining the whole matter of rural water supplies, or the United States Public Health Service will supply reference to one of their publications which can be purchased from the Superintendent of Documents, Washington, D. C., at a nominal price.

Cardiac Neurosis

To the Editor:—Please give me a definition of cardiac neurosis. O. E. N., Oklahoma.

Answer.—Cardiac neurosis may be defined as a condition in which a person has developed an anxious state of mind in the belief that he is suffering from heart disease when none exists. The belief is usually evoked by attacks of palpitation or skipped beats, which may be due to gaseous distention of the stomach, to overindulgence in tobacco, tea or coffee, or to excesses of various kinds. When the palpitation or irregularity is due to organic disease of the heart or to certain poisons elaborated within the body, such as that of toxic goiter, the term cardiac neurosis does not apply.

MY BOY...

STRONG . . . sturdy . . . well . . . with health that keeps him growing and smiling. A sound body that frees mother from worry. She smiles too.

This "young man" has seen his doctor regularly since he was an infant. He's been thoroughly examined every few months, and radiographed to see whether his bones were growing straight and strong. Thus he has been safeguarded against rickets.

And what is just as important, his mother will continue to take him to the doctor periodically throughout his boyhood and youth.

Every child should have a complete health inspection regularly. For if the menaces to the body are discovered early—many of them with the aid of x-rays—corrective measures can be instituted.

Every grown-up, too, should have an annual health audit. When the cause of disorders is located early, correction is far more simple and effective.

X-rays play a most important part in the practice of personal preventive medicine. So, in these health examinations your physician often will suggest that radiographs be made to aid him in his diagnosis.

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If you would like to know more about the part x-rays play in maintaining health, send for the new booklet, "X-rays and Health."

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OYSTERS SAFEGUARDED BY GOVERNMENT REGULATION

Appetites are sharpened as the winter season approaches, and thoughts of oysters on the half shell, steamed oysters enriched with plenty of melted butter, oyster cocktail with a touch of tobasco sauce, well seasoned oyster stews, boiled oysters, oyster pie, escalloped oysters, oyster fritters, fried oysters with all the trimmings, and turkey stuffed with oyster dressing make the mouth water with pleasurable anticipation, maintains the Maryland state department of health.

In order that oyster packers may retain a certificate to engage in the oyster business, they must meet the following minimum requirements of the U. S. Public Health Service as a protection to the community: Public health requirements must be complied with; the necessary equipment must be installed; packers must ship only oysters that are free from added water and that have not been adulterated by excessive washing; special attention must be given to sanitation and particularly to the care of water supplies, wash stands and toilets and to hand washing and the sterilizing of equipment; when steam is not available, chlorine compounds must be used in addition to hot water in sterilizing cans; all cans must bear the certificate number.

SAVE MONEY FOR ILLNESS EMERGENCY IS PLEA

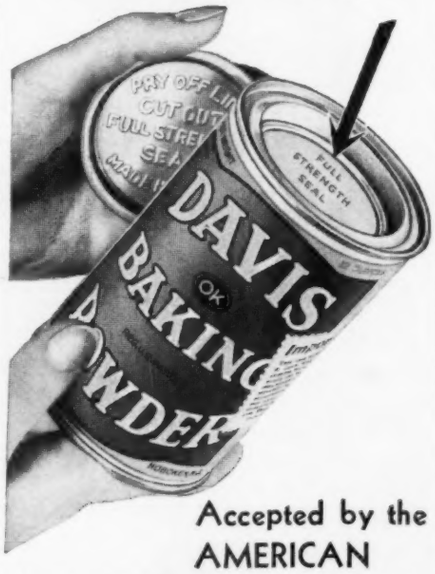
How about insurance in "Yourself, Incorporated"? A new idea? No, it is merely saving for the rainy day when ill health lays you low. If you can save fixed monthly or yearly sums to pay insurance premiums on your life, your house, your automobile and the plate glass in your shop window, why not set aside fixed monthly or yearly sums in a savings account to insure against the rainy day of illness, *The Crusader,* published by the Wisconsin Anti-Tuberculosis Association, suggests.

This plan takes in consideration also the doctor who is so willing always to serve. He deserves his remuneration promptly.

Insuring in "Yourself, Incorporated," is, after all, the same method many large institutions and corporations use to guard against future emergencies. But the purpose is the same as in the scheme suggested —to have some ready cash when the need arises. Have you made this investment?

The only baking powder with full strength sealed in . . .

DAVIS



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DAVIS
BAKING POWDER

FOOD VALUES OF PEANUT HAVE INCREASED ITS POPULARITY

The peanut has outgrown its circus days. In one form or another it is now accepted as a respected occupant of the pantry shelf and appears on the dinner table in most substantial company.

The food value of the peanut is exceptional, for it has a high protein, fat and vitamin B content. A pound of whole peanuts, according to chemists of the U. S. Department of Agriculture, contains nearly ½ pound of fat and nearly ¼ pound of protein, both the oil, or fat, and the protein being of high grade and readily digestible.

The plant was introduced into southern North America from tropical America in colonial times, but it had no commercial value in the United States until after the Civil War when the soldiers discovered its sustaining power as food. More than 2 million acres of land were planted to peanuts in 1931 and more than a billion pounds were gathered for commercial purposes.

For young children, peanut butter is more digestible than whole or ground peanuts. Ground fresh-roasted peanuts mixed with a little cream or milk if desired or with salad dressing may be used as a sandwich spread for the school-day lunch. Also they may be creamed and served on toast at supper. Peanut cookies, peanut butter cup cakes and peanut brittle ice are other suggestions.

ONSET OF TUBERCULOSIS IS DETERMINED BY THREE FACTORS

"Almost every one becomes infected with the germs of tuberculosis at some time in his life," says the Iowa state department of health. "There is a difference however between becoming infected and developing the disease. Development of the disease depends on three conditions: (1) the size of the dose, (2) the opportunity for frequent or prolonged exposure and (3) the ability of the body of the exposed person to overcome the germs of the disease. The cells of a healthy body or of one with good 'resistance' will attack the germs and destroy them before they can become destructive. If this happens (and it does happen to the most of us) there are usually no unfavorable effects and illness does not result."

To *cure* is the voice of the past, to *prevent* the divine whisper of today.—*Kate Douglass Wiggin.*

COLLEGE IS NOT INTENDED FOR EVERY ONE

To enforce or even to encourage a college education for some persons is manifestly taking an unfair advantage of both the student and his parents. The capacity for sacrifice on the part of mothers and fathers seems limitless, and there are times when one wonders whether the game has been worth the candle for them. As to the student himself, the unavailing albeit honest struggle with something beyond him, together with the humiliation attendant on failure, is part of the annual crop of sad occurrences of the college year. Shall we not do better if we say to many of these docile Johns and Marys who crowd about our gates: "Think well before you dedicate four supremely good years to a mode of life that you are seeking only because others seek it; that may disappoint you and twist you and in the end give you only a grudging reward. Decide now, rather, to make the most of the many other things which life offers, and for which you may be eminently fitted, and leave college for those to whom the intellectual life is foremost." Jane Louise Mesick, dean of Simmons College, sounds a timely warning in *Child Welfare* for those young men and women who have been graduated or soon will be graduated from high schools or preparatory schools and are looking toward the future and their vocation.

START CHILDREN EARLY TO FORM HEALTH HABITS

In order to offset the strain, mental and physical, of growth, of school life and of modern conditions of living, the growing child needs the opportunity to start the day off right. Sufficient sleep and an unhurried substantial breakfast will prepare him for his work at school. After hours in school the child needs adequate time for recreation and play, spent outdoors when possible.

Any mother who helps her children to establish such habits can feel that she is laying the best possible foundation for good general health, for steady nerves and for the power to resist disease, maintains Dr. Robert H. Riley, director of the department of health of the state of Maryland.

The pleasantest things in the world are pleasant thoughts, and the great art in life is to have as many of them as possible.—Bovee.

It's inhuman

to let children suffer from your carelessness during colds

Use KLEENEX, not germ-filled handkerchiefs

DO YOU realize colds are three times as common among children as among adults? That children's colds are far more likely to have dangerous complications? This places a serious responsibility upon every parent.

Be particularly careful about handkerchiefs during colds. Germ-soaked, they infect the hands each time they're touched. Your hand spreads these germs to children's faces, to doorknobs, pencils, clothing, telephone. One handkerchief may spread infection through an entire family! Compare this dangerous method with the exquisite cleanliness of Kleenex. Due to its very low cost, Kleenex Tissue may be used and destroyed at once.

* *

A noted scientist proved conclusively that Kleenex Tissues literally snare germs in super-absorbent fibers—holding them firmly until the Kleenex can be destroyed.

There's another important reason why Kleenex is far less likely to spread germs. Tests show that Kleenex fibers are so remarkably absorbent, they hold germs tightly embedded, whereas germs are quickly dislodged and spread, from the fibers of linen or cotton handkerchiefs.

Many ways to buy Kleenex

Kleenex now comes in convenient rolls as well as in household packages and in extra-size tissues. Every drug, dry goods and department store carries Kleenex. Try 'Kerfs, too—smartly bordered handkerchiefs of softest tissue.

KLEENEX *disposable* **TISSUES**

SCHOOL LUNCHES REQUIRE PARENTS' CAREFUL SUPERVISION

On cold wintry days when many children bring their lunches to school, the school lunch constitutes a great problem. It is not easy to keep food clean and attractive when it must be packed and carried to school. Foods that are merely filling are not the best in the noon-day lunch. Milk, eggs, butter, fruits and vegetables are the most desirable foods.

Schools that serve lunches have a decided advantage over other schools, and schools that supply milk at the lunch hour to their pupils are showing greater concern for their pupils' welfare than those which make no effort at all to solve this problem. Some schools cooperate with the parents in preparing a hot dish for all the school children.

But the child who has to bring his own lunch, with no possibility of milk or any assistance from the school, needs special care by the mother. A cheese sandwich with plenty of butter will help to meet the child's requirement for calcium and vitamin A otherwise supplied by milk. A tomato, an orange or other fruit is the more important if the child must do without milk at lunch.

Waxed paper, paper napkins, paper cups, plates and covered containers and the paper bag have largely displaced the inconvenient and unsanitary lunch box or lunch basket, according to the U. S. Department of Agriculture.

PERSONAL IDEALS

"I have had three personal ideals. One to do the day's work well and not to bother about tomorrow. It has been urged that this is not a satisfactory ideal. It is; and there is not one which the student can carry with him into practice with greater effect. To it, more than anything else, I owe whatever success I have had—to this power of settling down to the day's work and trying to do it to the best of one's ability and letting the future take care of itself.

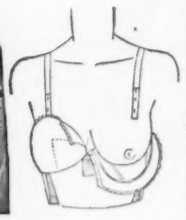
"The second ideal has been to act the Golden Rule, as far as in me lay, toward my professional brethren and toward the patients committed to my care.

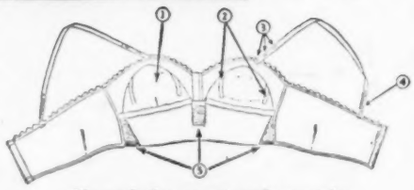
"And the third has been to cultivate such a measure of equanimity as would enable me to bear success with humility, the affection of my friends without pride, and to be ready when the day of sorrow and grief came to meet it with courage befitting a man."

—Dr. William Osler.

Maiden Form
NURSING BRASSIERE

This brassiere aids in preserving the natural breast contours during and after the nursing period. It is back-fastening, with an extra front opening for nursing. Note these special features: (1) Form-fitting fulness for support without pressure; absorbent shields, with rubber lining that cannot touch skin; (2) Holders for pads of sanitary gauze; (3 and 4) Adjustable shoulder straps; (5) Ample elastic gussets. Of flesh porous mesh, $1.50.





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The DeVilbiss Company, Toledo, Ohio, headquarters for atomizers and vaporizers for professional and home use.

Accepted by the Council on Physical Therapy of the American Medical Association

WHOOPING COUGH TAKES DEATH TOLL OF SMALL CHILDREN

Whooping cough is a contagious disease. In children under the age of 3 years and particularly babies, it is dangerous and often fatal. In older children it is distressing but not usually fatal.

Use every care to protect the child from whooping cough. Contact with a child sick with it paves the way to "catching" it.

The disease usually begins like an ordinary cold or cough. The ordinary cold improves in a few days, but the cough of whooping cough continually becomes worse. The child may have a spell of coughing without catching his breath. Then as he takes a big breath, a whooping sound may be heard. Vomiting often follows these spells.

Frequent spells and much vomiting weaken the child to such an extent that the disease becomes dangerous. The majority of the deaths are due to pneumonia, which is the most frequent and most serious complication. Because this complication is so dangerous, it is advisable to obtain the services of the doctor as soon as the mother is aware that the child is sick, the department of public health of Massachusetts maintains.

CAR OWNER SHOULD BEAR MEDICAL COST OF ACCIDENT

In 1930 the Ohio Hospital Association found that of $810,489.14 in hospital bills for service rendered automobile accident patients, $406,761.24, or approximately 50 per cent, was considered uncollectable.

This information concerns only one state. The committee appointed by the Columbia University Council for Research in the Social Sciences to study compensation for automobile accidents has recently made a report of 313 fatal cases which it investigated.

As a result of this study the committee goes on record as favoring compulsory liability insurance on the part of automobile owners. It provides that the costs of medical or surgical care, hospitalization, nursing service, medicines, necessary apparatus and the like shall be borne by the automobile owner responsible for the accident. If feasible, such a plan would go far toward relieving physicians and hospitals of a burden which society has no right to demand that they bear, according to an article appearing in a recent issue of *The Journal of the American Medical Association.*

CROSS-EYED CHILDREN CAN HAVE EYES CORRECTED AT EARLY AGE

The National Society for the Prevention of Blindness recently issued a statement that is most convincing to mothers skeptical of the good that the medical profession can do in regard to the cross-eyed child. Dr. Luther C. Peter made the following statement:

"Parents may be assured that all cases of cross-eyes can be corrected, but it requires their heartiest cooperation and a willingness to put aside their prejudice and their lay ideas. As the treatment of the case is a purely technical matter which calls for the highest degree of medical skill, the treatment should be prescribed and outlined by a physician who is especially trained in the treatment of the eyes."

To correct cross eye, treatment should begin before the sixth year and preferably before the third year. Testing of vision, fitting of glasses, preventing lowering of vision in the weak eye, awakening of the fusion faculty, and operation when necessary constitute the several steps necessary to bring about perfect results.

Children of 4 years become conscious of this deformity and may develop an inferiority complex as well as suffer under the original physical handicap.

RESOLUTION AIMS TO STEM SPREAD OF PARROT FEVER

To prevent the spread of parrot fever, the U. S. Interstate Quarantine Health Service adopted a resolution that every interstate shipment of parrots, parrakeets, love birds or other members of the parrot family must be accompanied by a certificate from the proper health authorities to the effect that the bird or birds in the shipment have come from breeding centers or other distribution establishments that are free from infection.

Psittacosis, or parrot fever, caused 33 deaths and a total of 163 cases in the United States during the winter of 1929-1930.

As a result of special study it was found that in southern California, infection was present in some of the breeding aviaries and it is believed that parrots and parrakeets from this source have probably been one of the important means of spreading the disease to other states, the department of health of the state of Maryland points out.

Plenty of energy for play and work

Build up their reserve with Horlick's Malted Milk

CHILDREN play hard, tiring themselves out constantly. Provide excess energy for play or schoolwork with Horlick's Malted Milk. It aids in building strong bones, vigorous muscles and gives added resistance to disease through better nutrition.

If your child lags at breakfast, give him a glass of hot Horlick's. It supplies both heat and energy. The milk plus the extracts of malted grains nourishes the body and sends him to school happy and content. A glass of Horlick's after school is a necessary pick-up, too. It contains Vitamin B, the vitamin which stimulates the appetite for other foods.

Get a package of Horlick's at once.

HORLICK'S
MALTED MILK

HORLICK'S MALTED MILK CORP.
Dept. H-18, Racine, Wis.

Please send me.....weight charts for preschool children and.....charts for school children for recording by a graph the weight progress of individual children.

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.....

GOOD HEALTH RECORD OF LAST YEAR IS DECEPTIVE

The excellent health record for 1932, although accurate, is deceptive. Many writers have credited this new record to the economic depression the world in general is facing, an editorial in *The Journal of the American Medical Association* explains. True, the editorial continues, in certain instances there are bound to be fewer deaths. Obviously there will be fewer deaths caused by industrial accidents. There will also be a diminution of deaths caused by diseases which are unfavorably influenced by industrial employment. Traffic accidents may be fewer too. But these are apparently the immediate beneficent effects of an economic depression, and should not produce too much rejoicing.

"The public must look much further than merely at a current figure for the ultimate effects of a depression. Just as the European central powers are still paying the penalty of the malnutrition among their children, due to food shortage during war blockades, so must we expect to experience in the future some of the effects of what economic distress, curtailed employment and enforced economy are doing to our people today," the editorial comments.

No one can ignore the fact that thousands of children are today suffering from malnutrition. Too often the social agency has been under fire from unthinking persons who still think that orange juice and butter-fat are luxuries rather than necessities. Dentistry is being postponed; self medication is more common, and operations are being delayed until they become a necessity and often until it is too late for them to be successful. The last situation may be expected to react unfavorably on mortality from appendicitis, gallbladder disease, cancer and hernia.

COMMUNICABLE DISEASE

"Every case of communicable disease should be promptly reported. The patient should be isolated to prevent contacts. Doubtful cases should be treated likewise until diagnosis is certain. These precautions in the schools should be rigidly observed especially in regard to smallpox and diphtheria. A school epidemic is a costly experience—to parents in anxiety and worry, to the school authorities in expense, and to the stricken child, most of all."—Louisiana State Board of Health.

4 Reasons for the

Doctor's choice

1 Made of a glass that minimizes bottle breakage. 2 Six-sided, outside, for correct, easy holding. 3 Smooth, inside, for easy cleaning. 4 Half-ounce markings easily read.

FEEDINGS ready on time — to the dot — because Pyrex Brand Nursing Bottles stand up under heating the milk. They're made of that famous Pyrex resistant glass that's practically immune to breakage from heat or cold.

These famous Nursing Bottles come in two handy sizes. The standard 8-oz., with narrow neck or wide mouth, at 25¢; and the new 4-oz., with narrow neck, 15¢.

PYREX
Nursing Bottles

"Pyrex" is the registered trade-mark of Corning Glass Works, Corning, N. Y., and indicates their brand of resistant glass. These prices are in effect in the U. S. only.

CONCISE—AUTHORITATIVE—MATTER-OF-FACT
—COVERS EVERYTHING

"A Child is to be Born"

Reprinted for expectant mothers from the series in "Hygeia"

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HIGH QUARTZ CONTENT IN DUST CAUSES LUNG FIBROSIS

The dust content of the atmosphere in various industries and the amount of harm dust causes have been the subjects of recent research by J. J. Bloomfield, sanitary engineer of the U. S. Health Service. He presented a summary to the Annual Safety Congress, which showed that the highest dust exposure was in talc mines, slate finishing mills, quartz grinding plants, and coal mining and granite cutting operations. Because of the high percentage of quartz present in the dust of quartz grinding and granite cutting plants, these occupations were found to be the most hazardous of those studied.

Certain types of dust will in time produce fibrosis of the lungs, which is at times associated with tuberculosis. In general it has been found that those dusts which are high in quartz content are the ones that produce a fibrosis of the lungs most readily. When the dust concentration is high, the exposed person inhales a greater quantity in a given period and the rate of production of the disease is partially dependent on the rate at which the dust is inhaled. In fact it has been found that the harmfulness of a quartz-containing dust is in direct proportion to its quartz content. Rock drilling dust from a bituminous coal mine, granite cutting dust, rock drilling dust from an anthracite coal mine, and brass foundry dust have the highest percentages of quartz content of dust. This recent report is made by the National Safety Council.

DIPHTHERIA STILL TAKES HEAVY DEATH TOLL

Diphtheria annually takes a toll of from 250 to 300 lives in the state of Oklahoma alone. It is a needless sacrifice because diphtheria is absolutely preventable and can be wiped out. The department of public health in that state has waged an intensive campaign against this disease to arouse the parents out of their indifference. The message of the department of health of the state of Oklahoma is applicable to the country in general. Since all weapons necessary to fight this enemy are in the hands of the medical profession, there is no reason why diphtheria should continue to occupy third place among the communicable diseases in the cause of death. Children between the ages of 6 months and 12 years who have not yet been immunized against this dreadful disease should be protected by the injection of toxoid.

Lucky Whole of the Wheat
and
Lucky Bread Graham Flour

Ground from selected spring wheat. **Sanitary — not touched by human hands.**

FEDERAL MILL, Inc.
8 Race St., Lockport, N. Y.

HEALTH POSTERS

From Far and Near

You probably enjoyed the 4-color process reproductions of child welfare posters that appeared in the December HYGEIA; and so you will be pleased to learn that these striking color pages are now available in reprint form, enclosed in a decorative folder.

These colored posters represent some of the best foreign health poster work, the plates for a number of them having been imported directly from Europe for use in HYGEIA. They deal with child welfare and prenatal care in

France	Russia
Germany	India
China	Japan
Latvia	Lithuania

The folder holds eight individual sheets, each containing from two to nine miniature posters in their original colors. In this form the posters may be displayed in groups, or cut out and mounted separately on artcraft paper.

For Home or School

Children will delight in cutting out and arranging these pages for scrapbooks. And at the same time they will be absorbing lessons on the importance of fresh air, clean hands, proper food. In schools, particularly, the posters will make a number of subjects more interesting, for example

In Health Classes
For Art Work
For Notebooks
In Project Work
For Geography Classes

The ingenious teacher will devise many other uses. For instance, the Oriental posters may serve as models for enlarged blackboard drawings.

Price 25 Cents a Set

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street, Chicago

RESEARCH REVEALS MANY BLIND-DEAF

Five years' research has located 887 persons in the United States and 57 in Canada who are both deaf and blind, a report to the *American Braille Press* discloses. The exhaustive survey has been conducted by Mrs. Corrine Rocheleau Rouleau of Washington, D. C., and Miss Rebecca Mack of Cincinnati.

"As a class, the deaf-blind in our midst are not only the most heavily handicapped and the most lonely of all human beings, but also, as a class, the most neglected," declares Mrs. Rouleau, author of the report.

She relates how some of these unfortunate children have been placed in asylums for the feeble-minded without proper trial, because the so-called intelligence tests are quite worthless in evaluating their potentialities.

In other instances they have been refused in schools for the blind because they were deaf or in schools for the deaf because they were also blind. In some instances no trained teachers were available. In other instances it was feared that such pupils would prove too difficult, expensive and burdensome.

OPTICIAN VALUES "MAKER OF RAINBOWS"

The profound theory of universal gravitation has so captured the popular mind that other great work of Isaac Newton is often slighted. The optician, however, appreciates the work of this maker of rainbows.

The fact that a prism gave color was not new. Newton, however, was the first to notice that when a circular beam of light was passed through a prism, the resulting color beam was longer than the original white beam. After struggling with some impossible theories to explain this, it occurred to him that white light was in reality a bundle of colored beams which, on passing through a prism, were refracted at different angles, large angles for violet light and decreasingly smaller to red light. The unsatisfactory performance of the refracting telescope as made then was thus explained. The light, broken up by refraction in the lens, produced several colored images at various distances from the eyepiece.

Nearly every field of science is indebted to color in some way or other, the *Educational Focus* explains.

"Medicine absorbs the physician's whole being because it is concerned with the entire human organism."—*Goethe.*

Thousands of doctors and nurses have proved it

Have you "sandpaper" hands? Does the constant scrubbing up during your cases tend to dry out your hands; make them rough and ugly; leave them open to attack from cold weather?

Then, why not follow the example of thousands of doctors and nurses in all parts of the world, who make Nivea Creme* a vital part of each day's work? After every washing, apply just a tiny bit of this rich creme to your hands—notice how quickly it seeps into the skin, and also how far just a little goes. The natural oils and liquids supplied by Nivea Creme are a tested protection against chapping and cracking.

Keep a tube of Nivea Creme always handy at home or in the office. It will save you from "sandpaper" hands. Nivea leaves no after-greasiness, so it does not interfere with your work.

Mail the coupon below for your *free* sample tube of Nivea Creme.

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200 Hudson St., New York, N. Y.

Please send me without charge a trial tube of Nivea Creme.

Name.....

Street.....

City.....State.....

BOOTLEG MILK VERSUS PASTEURIZED

And now—bootleg milk! Many farms are found on the highways near any large city, offering milk and cream at perhaps half the price asked in the city. Milk is an important part of the diet, especially of the child's diet, but milk that is not pasteurized with careful timing is not fit for the child's or the adult's diet. Overwhelming percentages of the outbreaks of communicable disease traced to milk have been charged to raw milk, and most bootleg milk is raw. Decreased incomes have led many to buy this cheap milk outside the boundaries of their cities, where the jurisdiction of the health department does not extend; hence they become needlessly exposed to milk-borne infections. Not only is the practice unhealthful, but in the long run it is not even economical. It is also, quite obviously, a serious handicap to honest milk dealers trying hard to hold their industry up to high standards during difficult times, an editorial in *The Journal of the American Medical Association* states.

HEALTH PERILS OF YOUTH FROM 15 TO 19

Accidents, tuberculosis and heart disease are the three greatest hazards of life for young people between the ages of 15 and 19. Ranking in the order given, these three risks account for more than half of all fatalities in this age group.

Accidents are mainly a masculine hazard, while fatal tuberculosis is predominantly a feminine risk, although neither is necessarily so.

The biggest improvement since 1920 in this age group in resisting and overcoming disease was in the death rate from pneumonia and influenza, but these two along with other respiratory diseases fluctuate from year to year so that the improvement must be regarded as temporary or at least subject to loss.

On the other hand, substantial declines characterized mortality from tuberculosis, typhoid and heart disease, and this improvement may be accepted as positive. These permanent gains in health conditions have resulted largely from well planned preventive and control measures, the *Illinois Health Messenger* reports.

"The world is a looking-glass and gives back to every man the reflections of his own face. Frown at it and it in return will look sourly upon you; laugh at it and with it, and it is a jolly, kind companion."
—*William M. Thackeray.*

RADIO MAY BE UPLIFTING OR DEBASING BY CHOICE

"This generation has been privileged to see the birth of a new force hardly less significant than the development of language or of printing. To produce and distribute a single book to the entire world would require a long time. By the magic of radio it is possible for a single teacher to reach millions of minds in an instant. Radio, like printing, can debase or elevate. It can emphasize the tawdry or the noble. Radio has done much to debase human life—to appeal to the lower tastes and emotions. It has exposed home and family life to the vulgar and indecent attitudes which are developed by commercialized recreation in large cities. Radio has also done much to elevate human life through beautiful music, inspiring sermons and the discussion of public affairs. These by the turn of a switch you can select as the raw materials of your mental heritage," *The Journal of the National Education Association* maintains.

APPLES FLOOD MARKET AS POPULAR WINTER FRUIT

Apples are one of the most important winter fruits. By the end of November the crop is off the trees and the fruit begins to flood the market or be put into storage.

It is because one eats so many apples, and particularly raw apples, that their food values are important. Apples furnish a mild roughage; they contain vitamins A, B and C, especially in the portion just under the skin, and they have some carbohydrate and some mineral value, not enough, however, to be important if they are not eaten in abundance.

The Rome Beauty is valued chiefly as a baking apple. The Baldwin is considered a general purpose apple. The Jonathan and Northern Spy, among others, are also considered excellent for sauce and pie as well as for eating raw.

The Market Basket from the Bureau of Home Economics, U. S. Department of Agriculture, includes the plentiful winter apples for this time of the year.

SECRET

I don't know a whole lot about it,
But it is a fact, I guess
That having more backbone than wishbone
Is what brings a man success.

—*Pathfinder.*

Schools and Camps

Schools for Backward Children

TROWBRIDGE TRAINING SCHOOL

Home school for nervous, backward children. *Best in the West.* Beautiful buildings. Spacious grounds. Experienced teachers. Individual supervision. Resident physician. Enrolment limited. Endorsed by physicians, educators. Booklet. E. Haydn Trowbridge, M.D., 1810 Bryant Bldg., Kansas City, Mo.

Beverly Farm (INC.) *A Home and School for Nervous and Backward Children and Adults*

220 acre farm. 7 bldgs. New school gymnasium. 35th year. Industrial and school training given. Dept. for birth injury cases. GROVES BLAKE SMITH, M.D., Supt. **Godfrey, Ill.**

HOW OFTEN *Should Hair be* WASHED? . . . .

"Once a week," say doctors, nurses, teachers. Use DERBAC in *Silver Package* for dandruff and scalp infections. *Gold Package* for general hair health and hair beauty.

Physicians and Nurses: Send 10c for 25c size trial cake.

Cereal Soaps Co., Inc.,
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334 E. 27th St., New York

Derbac
The New SPEED
SHAMPOO

THE VITAMINS

A Symposium on the Present Status of the Knowledge of Vitamins

◆ Written by authorities on the subject, this book will prove distinctly helpful to all those who have some technical knowledge of or interest in vitamins—physicians, dentists, nutritionists, laboratory workers, and teachers of nutrition and kindred subjects.

◆ It collects into convenient book form a notable series of articles from the JOURNAL of the American Medical Association, prepared under the auspices of The Council on Pharmacy and Chemistry and The Committee on Foods.

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"VITAMIN A" by L. B. Mendel, Ph.D., Sc.D.
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"REVIEW OF RECENT STUDIES ON THE ANTINEURITIC VITAMIN" by H. D. Kruse, Sc.D., and E. V. McCollum, Ph.D., Sc.D.
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Imitation leather binding. Full index. 192 pages. Size 5½ x 8½. Price, $1 postpaid.

AMERICAN MEDICAL ASSOCIATION
535 North Dearborn Street Chicago, Ill.

REHABILITATION SHOP PROMOTES LIFE WORK

A rehabilitation workshop for men and women discharged from sanatoriums and elsewhere has been the project of the Boston Tuberculosis Association for the last two years. The difficulties which men and women discharged from sanatoriums met in trying to gain employment made the workshop a more desirable project than a placement bureau. In October, 1930, the workshop was opened to nineteen men and seventeen women. It was here that men and women learned new trades to prepare them better for their future life. Housing and income were the association's biggest problems. Other social agencies of Boston were most helpful in providing both material aid and housing facilities.

On the top floor of the building are two large restrooms. Here the men and women are required to spend at least one hour each day, and they may do so at other times when they feel fatigued. On the second floor, half of the space is devoted to the sewingroom where the women are taught hand and machine sewing, dressmaking, embroidery and allied activities. On this floor also is the salesroom for the products made in the women's and men's departments.

On the first floor is the men's workshop. Under competent supervision the men are instructed in all phases of woodworking, upholstery and decoration.

The other half of the first floor is devoted to a lunchroom where a midmorning lunch and a hearty noonday meal are served, free to the patients.

In the two years that the shop has been running it has incurred a deficit, but because the association believes in the good work it is doing and because it intends to make expenditures more closely fit income, the shop will continue to teach men and women to fight their way to independence in the community life through honest, practical work.

The *Journal of the Outdoor Life* describes the activities of this worthwhile project.

Happiness in this world, when it comes, comes incidentally. Make it the subject of pursuit, and it leads us a wild-goose chase, and is never attained. Follow some other object, and very possibly we may find that we have caught happiness without dreaming of it.

—*Nathaniel Hawthorne.*

DIABETES HAS NO CURE; INSULIN AND DIET FIGHT DISEASE

"Persons who have diabetes should not rely for treatment upon almond or bran bread, suprarenal extracts, epinephrine, opium, sodium bicarbonate, or levulose," says Dr. F. J. Cullen, chief of drug control of the Federal Food and Drug Administration, according to a statement recently issued by the U. S. Department of Agriculture. "There is no drug nor combination of drugs known to medical science which can cure this disease.

"Not long ago the Government seized a product, recommended as a treatment for diabetes, shipped by a drug concern in Berlin, Germany, to a New York concern. The preparation was of no value to diabetics. The seizure was made under the import provisions of the Federal Food and Drugs Act, which requires that all foods and drugs shipped into the United States be unadulterated and truthfully labeled.

"'Some manufacturers in this country have recommended for diabetes nostrums which could have no remedial value for the disease,' Cullen states. 'The only reliable method of combating diabetes is the use of insulin by hypodermic injection, together with a suitable diet—and this is not to be considered a cure.'

"Every country has a favorite herb which is superstitiously believed to have curative value for this serious malady. There is no record that any of these herbs can cure the disease, although many of them have diuretic action, and their use may lead the patient to think he is improving, because of an apparent lessening of sugar in the urine.

"Products which are labeled with claims to cure diabetes are liable to seizure under the food and drug law."

MENTAL GROWTH

The mind, like the body, grows by what it feeds on. Wise parents are as careful to nourish the minds of their children as to feed their bodies. . . . Curiosity is the appetite for mental food. It leads the child to look, to examine, to experiment, to taste, to feel, to listen, to contemplate. . . . Richness of experience is the foundation of mental growth.—*The Journal of the National Education Association.*

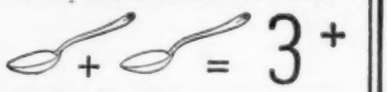
"The education of most people ends upon graduation; that of the physician means a lifetime of incessant study."—*Marx.*

TODAY she's one year old and weighs just 21 pounds! Her growth has been almost to schedule. This little girl should weigh 26 pounds a year from today.... *She probably will, too;* because her mother will continue giving her daily doses of Scott's Norwegian Cod Liver Oil.

Growing bones and teeth need vitamin D, and Scott's Cod Liver Oil is a rich source of this vitamin. It contains vitamin A as well, which helps protect adults and children by building resistance to infections.

Three-teaspoonfuls-per-day★ of ordinary cod liver oil has been found the necessary medicinal dose. *But two teaspoonfuls daily★ of Scott's Cod Liver Oil yields a higher vitamin intake than this three-teaspoonful dose of ordinary cod liver oil.* Yet Scott's Cod Liver Oil is cheaper.... Available at all drug stores in three convenient sizes at 35c, 60c, and $1.

★
SCOTT'S TWO-SPOONS-A-DAY
Efficient and Economical



THE Council on Pharmacy and Chemistry of the American Medical Association has determined that the average prophylactic and curative dose of cod liver oil is one teaspoonful (4 c.c.) three times daily. This assumes an oil of such potency that 4416 U.S.P. vitamin A units and 1468 A.D.M.A. vitamin D units are taken daily.

As compared with this, Scott's Norwegian Cod Liver Oil has extra-potency (1000 U.S.P. vitamin A units and 250 A.D.M.A. vitamin D units per gram). Therefore two teaspoonfuls taken daily yield a total intake of 7360 U.S.P. vitamin A units and 1840 A.D.M.A. vitamin D units.

SCOTT'S
NORWEGIAN
COD LIVER OIL

PLAIN AND FLAVORED
Made by SCOTT & BOWNE, Bloomfield, N. J. *Sales Representatives,* HAROLD F. RITCHIE & CO., Inc., New York City.

ACCEPTED AMERICAN MEDICAL ASSN.

EVERY SCHOOL HAS NEED FOR FIRST AID CABINET

"A stitch in time saves nine." This old proverb is particularly adaptive to emergencies arising out of injuries. Intelligent, prompt and practical first aid rendered to one who has been injured in an accident may mean the saving of a life or the avoidance of serious infection.

In every school, no matter how large or small, a first aid cabinet should be supplied and maintained. The initial cost is little, and the upkeep is not expensive. One person should be responsible for the care of the cabinet. It should be placed where it will be out of the reach of children. Some person should always be available who is especially trained to render such aid. Dr. J. P. Bowdoin of the Georgia state department of health offers the following suggestions:

The cabinet should contain a good first aid manual. If poisons are kept in the cabinet, the remedy to combat each should be provided, and the antidote should be placed on the label of the bottle or box containing the poison. The cabinet should contain the following articles:

1 ounce of tincture of iodine (for external use only)
4 ounce mixture of tincture of iodine—1 part iodine, 3 parts alcohol (for external use only)
2 ounce bottle of 2 per cent solution mercurochrome
4 ounces of boric acid
1 small roll of adhesive plaster
3 packages of plain sterile gauze
3 two-ounce packages of absorbent cotton
6 ten-yard assorted 1 and 2 inch string bandages
1 card of safety pins
1 pair of scissors
4 ounce bottle of tincture of green soap or any good liquid soap
1 hand scrub brush
2 yards of sheeting to make slings and triangular bandages.

MOUTH HEALTH

Mouth hygiene means mouth health, and that involves cleanliness, dental repair when necessary, nutritious food to build up resistance to disease, and teeth that function normally as the first step in food digestion, according to the department of health of the state of Maryland.

Good health and good sense are two of life's greatest blessings.
—*Publius Syrius.*

VITAMIN DEFICIENCIES DEFINITELY AFFECT EYESIGHT

A study which illustrates just how vitamin deficiencies affect one particular organ of the body is published in *The Sight Saving Review.*

Vitamin A deficiency may result in two types of change of vision: night blindness and a condition of great dryness, resulting from a breaking down or softening of the corneal tissue. Milk is a plentiful source of vitamin A.

Vitamin B is found in milk, green leafy vegetables, bananas, yeast and fruits. The absence of vitamin B affects the nervous system and results in irritation and weakness of the eyes.

Malnutrition in general has been associated with defects of the eye. The influence of diet has been evident in corneal ulcer, keratomalacia, glaucoma, choroiditis and other ocular diseases. Scurvy manifests itself in hemorrhages, which sometimes occur in the orbit and result in a pushing forward of the eye. Anemia, beriberi and pellagra have long been known as diseases of food deficiency, but it is important also in a consideration of the eyes that a regulation of diet is given prime attention, especially when certain conditions cannot be ascribed to other causes.

SMALL CONCERNS REQUIRE DEFINITE HEALTH PRECAUTIONS

In the attempts to promote healthful and sanitary conditions in industry, too little stress has been placed on the smaller industrial plants.

A case is cited by the National Safety Council wherein three employees in a plant employing ten workmen were affected by lead poisoning while salvaging lead plates from old storage batteries. No precautions whatever were taken to prevent the disease. There were no washing facilities, and at the time the cases occurred the water supply was turned off. The employer knew little of the hazard.

Municipal health departments can perform a badly needed service by means of an educational campaign. In some instances, according to previous experiences, it will be found that bad conditions were not caused by the unwillingness of employers to make needed improvements but were due rather to the fact that attention had not been called to the condition which so vitally affected the general health of their employees.

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WINFIELD SCOTT HALL, M.D.

Doctors, teachers and parents should see that these carefully written pamphlets are in the hands of every young person at the right age. What is learned from them need not later be unlearned.

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CHUMS—A doctor's frank talk to his 15-year-old son about the rules for a strong manhood. For boys from 16 to 18.

FOR GIRLS

MARGARET, THE DOCTOR'S DAUGHTER—What a doctor father told his 12-year-old daughter about the origin of life in flowers, fish, birds and animals. For girls from 12 to 14.

LIFE'S PROBLEMS—Truths which every young woman should realize. For girls from 15 to 18.

Prices—Single copies of any of above pamphlets—25 cents prepaid. In lots of four, 75 cents prepaid. Discount on quantities.

American Medical Association
535 N. Dearborn St.
Chicago

BROADCASTING BY QUACKS IN MEXICO IS FLAYED IN EDITORIAL

"Voices Across the Rio Grande," the title of an editorial in *The Journal of the American Medical Association,* will loom forth to the tune of 500,000 watts, which will make the mouthpiece of John R. Brinkley, goat gland transplanter, mail-order dispenser of medicines and candidate for governor of Kansas ten times more powerful than any United States radio station.

"Apparently," comments *The Journal,* "Brinkley can put potency into his radio broadcasting even if the goat glands will not perform a similar function for the misguided octogenarians . . . induced to submit to grafting operations by what they hear from over the Rio Grande."

To inform the general public of a portion of this man's activities may not be amiss. At one time the government of the United States stopped his broadcasting at Milford, Kan., and he built his station in Mexico to get around that prohibition. His record as a quack has been well founded.

Cancer Quack Norman Baker, whose activities were recently exposed by the American Medical Association first in its publications and later in court, is contemplating building a station in Mexico.

The editorial minces no words in saying: "If this Mexican practice is to continue without interference, American users of the radio may well anticipate for the coming years as the dominating theme of the broadcasts to which they may listen, the lamenting and feeble baa-baa of the castrated goat and the blatant charlatanism of Norman Baker. The radio industry itself and the telephone company that leases its wires for such broadcasting by remote control may well begin to consider the damage that they are likely to suffer from the rottenness that is developing within."

In times like these invest in boys and girls. Men talk about buying stock at the bottom. When you invest in a boy or girl you are always buying at the bottom. You are sure that the youngster is going up and there is no telling how far. I invite every man and woman in America to take a flyer in Childhood Preferred. I predict a great future for this security. It has investment merit combined with the most speculative possibilities. You are sure to get a man or a woman; you may get a great man or a great woman.—*Bruce Barton.*

MISFIT CHILD IN SCHOOL NEEDS REMEDIAL ATTENTION

The misfit child in school is the teacher's greatest problem. The teacher can hardly say, "Johnny, pick up your books and go back into the third grade; you can't do fourth grade work," or "Mary, go into the fifth grade," without bringing forth a storm of wrath and protest from children's parents. What she must do instead is remedial work, according to Lillian E. Miles in the *Oregon Educational Journal.*

She will give only the minimum essentials of the course of study to the slow children who cannot do average work; to the normal students she will give the regular requirements for the grade, and to the superior children she will offer an enriched and expanded program so that they may be kept happily occupied in doing worthwhile things.

Her most important general aim with these misfits either below or above par is to offer them opportunity for doing the best of which they are capable. She should realize that it is not so much what they have but how they use what they have which makes them worth while.

Serious harm can be produced by spending too much time with the dull children and letting the brilliant shift for themselves.

INDUSTRIAL ACCIDENTS FEWER IN 1931

"Greatly reduced industrial activity throughout the whole of 1931 resulted in the lowest death rate from accidental injuries arising out of or in the course of employment ever recorded for adult white male policyholders insured in the industrial department of the Metropolitan Life Insurance Company. The facts for a twenty-year period, of which such records are available show this clearly."

Occupational fatalities during 1931 occurred at the rate of 27.3 deaths per hundred thousand adult white male policy holders, a decline of 12 per cent from the rate of 31 per hundred thousand in 1930. Each of the principal means of accidental injury showed a marked decline, as compared with 1930, with the exception of occupational automobile accidents, for which the rate increased 21 per cent.

In evaluating the foregoing figures one must bear in mind the tremendous amount of unemployment in 1931. An important causative factor in the decline of industrial accidents is the decline in the number of persons employed.

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DIRECT CONTACT WITH FAMILY PHYSICIAN IS URGED

Economic depression with lowered incomes results in malnutrition, exposure to the elements and postponement of suitable medical and surgical attention to disease in its earlier stages, *The Journal of the American Medical Association* points out.

"Another serious effect has been the inability of various communities to carry out the usual systematic inspection of school children and indeed much of the technic associated with the control of communicable diseases. In some communities the number of school physicians and school nurses has been greatly reduced. In this emergency it has been suggested that the medical profession offer, without question of remuneration, to make suitable physical examinations of children entering school or at any time during the school year and to notify parents promptly of the presence of correctable defects or controllable disease. . . .

"The plans, as suggested, have the merit of bringing children and their parents directly into contact with the family physician. The measure is especially important in providing evidence that the family physician can take care of most of the complaints that afflict mankind at a lower cost than they can be handled by any other means and probably with better satisfaction to the majority of patients."

FRIENDS HELP TO SHAPE ONE'S DESTINY

"When you choose your companions you have taken a long step toward shaping your destiny. . . . If your companions are trivial or sensual or vicious, you cannot escape those elements in your own life. If your companions are interested in worthwhile things, if they are concerned with citizenship, with affairs, with science, with art, and with worthy achievement, you too will attach importance to these things. Fine companionship is one of the great achievements and abiding satisfactions of a well planned life. To be a good companion, a worthy playmate, a helpful brother or sister, a cherished husband or wife, a respected neighbor, an honored colleague, is to have made a good beginning toward the development of your mind," comments an editor of *The Journal of the National Education Association.*

"Love all, trust few, do wrong to none."—*Shakespeare.*

Good Health Information for *You*

Coming in the February HYGEIA

• • • • Do you know how to select a well balanced meal? Do you have health examinations periodically? Are you afraid that you have rheumatism? Are you trying to reduce by dieting? These are only a few of the health problems on which you will find helpful information in the next HYGEIA. • • • • • • • • • • • •

"Why Think About Eating?"

Dr. Henry Gerstenberg tells you why in a most entertaining two-part article beginning next month. He also explains what a faulty diet has to do with dental caries, why so many fat people enjoy eating, and what to do for a child with nervous anorexia. You'll agree that proper eating requires some intelligent thinking!

"Sixty Years—What They Have Taught Me About Doctors"

What is good health worth to you? In her article, Anna Steese Richardson gives a clear-headed evaluation of a business proposition: the extravagance of indulging in the pernicious habit of self diagnosis and the economy of undergoing periodic health examinations.

"Is It Rheumatism or Arthritis?"

A distinction without a difference is reassuringly discussed by Dr. Maurice F. Lautman. The causes of this condition, and the measures to be taken for its relief or cure, will be news to many readers of HYGEIA—and may be helpful to many sufferers!

"Quelling the Quacks"

Next month begins a new series of articles by Dr. Solon R. Barber, exposing an age-old racket and discussing various cases in which the federal government has been instrumental in "Quelling the Quacks." Readers of HYGEIA who remember Dr. Barber's excellent article a few months ago on "Headache Relief," will look forward to his exposures of quackery.

CONTINUING NEXT MONTH:

"Training for Athletics and Health"

Growing boys will find much to interest them in Alfred E. Parker's serial. In fact, it will inspire boys of all ages to emulate the Men of the Ages. Chapter 2 in the February HYGEIA will discuss "Three Sides to Every Life."

"Forty Years Old—or Forty Years Young"

In Part 2 next month, Dr. F. W. Scott discusses some of the factors that have long been regarded as significant to the cause of arteriosclerosis, "the most perplexing and most important unsolved problem in the field of medicine today."

"Menu Making"

Next month Miss E. M. Geraghty will discuss "Menu Making" in her series on "Foods—Their Selection and Preparation." Every homemaker who is weary of planning meals will find inspiration here.

—and also:

Other interesting helpful articles include—"The Final Illness of Washington" by Dr. Walter A. Wells, "The Heart of a Child" by Dr. Paul D. White, "Powdered Milk" by James A. Tobey, "Athletics for the Atypical" by R. K. Atkinson, and "School—or a Job?" by Dr. Hugh G. Rowell.

Introductory Offer for New Subscribers

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Enclosed is $1.00 for an introductory 6 months' subscription to HYGEIA, The Health Magazine. I am a new subscriber.

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PNEUMONIA MAY DEVELOP FROM BRONCHITIS OR COLD

The common cold, bronchitis and tonsillitis may be the forerunners of pneumonia. An infection of the nose and throat may well attack the lungs and cause pneumonia. It is far better to give good care to these less serious diseases than to run the risk of pneumonia. To avoid colds and subsequent pneumonia by keeping up one's resistance against all disease, the department of public health of the state of Oklahoma offers the following suggestions:

1. Avoid overexercise and overwork, both mental and physical. Get plenty of sleep.
2. Eat sufficient nourishing foods; drink large quantities of water.
3. Pay close attention to bowel elimination.
4. Avoid overcrowded, stuffy, underventilated rooms and exposure to wet and cold.
5. Watch carefully minor acute head colds, sore throats, bronchitis and influenza. If these diseases are contracted, isolate yourself and call the family physician.
6. Avoid common use of articles, such as drinking cups and towels.
7. Avoid sneezing, coughing and spitting where the chances of contact are present.
8. An ounce of prevention is worth a pound of cure.

HIGH SCHOOL GRADUATES ARE USING THEIR "RAIN CHECKS"

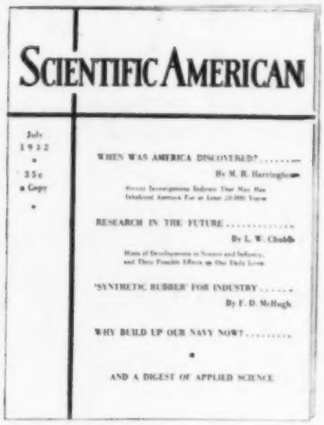
One hundred thousand unemployed young men and women high school graduates are using "rain checks" on their high school diplomas, according to a report from the Federal Office of Education.

To teachers and principals has fallen the task of sustaining the morale of this vast army of alumni, the majority of whom are in quest of something to do until they can find jobs or can see their way clear to return to or enter college.

By various methods this overflow has been accommodated. In some instances in which schools are understaffed, alumni members are used as secretaries, assistants to teachers, assistant coaches or helpers in lunchroom service and janitorial work.

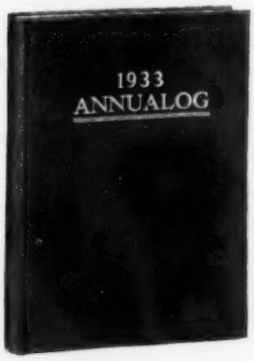
Extension courses offered for local study by state universities have also been found useful by many jobless high school graduates. Many principals are allowing the postgraduates as much freedom as possible to work toward their objectives, while instructors guide them in the proper direction.

ACROSS THE EDITOR'S DESK



passes an abundance of interesting material that does not find place in the magazine for any one of a number of reasons, yet the information, facts, records, histories, etc., are of enough importance as indicating what has transpired or has been developed during the year, to warrant preservation in

SCIENTIFIC AMERICAN ANNUALOG FOR 1933



Into this popular little book, now the Eighth Volume of the series, is crammed scientific information, facts of general interest, records of accomplishment in all lines of endeavor, astronomical almanacs and days of celebration for the year. A veritable storehouse of information and as its title indicates, a log of the world's progress, assembling a multitude of facts found in no other reference.

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Research reveals important reasons for daily servings of

CANNED-PINEAPPLE

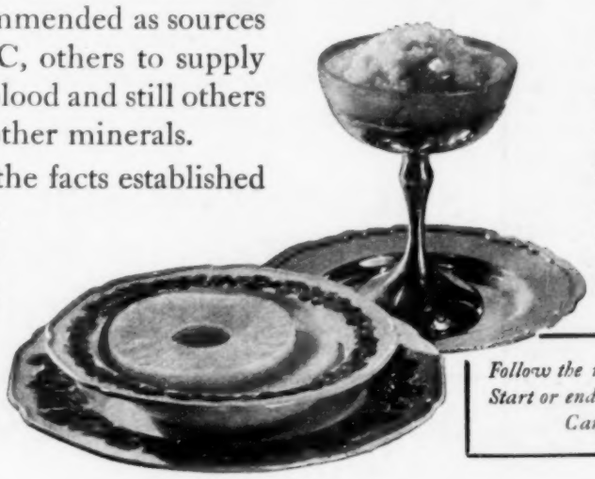
FOR years, Canned Pineapple has been eaten because of its delightful flavor. In the past, many investigations have indicated important nutritional values to be derived from eating this fruit.

Now, an intensive study of the dietetic assets of Canned Pineapple, including its effects upon human economy, demonstrates that essential nutritional values of many fruits are combined in this one delightful food. Authorities on nutrition describe fruits as protective foods, needed to supply certain essentials to the diet. Some fruits are recommended as sources of vitamins A, B or C, others to supply needed alkali to the blood and still others to furnish iron and other minerals.

Here are some of the facts established in a comprehensive research on the nutritional value of Canned Pineapple:

An average daily serving supplies good amounts of the vitamins A, B and C. It contributes to the normal alkalinity of the blood. It contains notable amounts of the three minerals, iron, copper and manganese, recognized safeguards against nutritional anemia.

And so, today, Canned Pineapple is seen in a new light. Not merely delicious, it adds wholesome nutritional values to the diet. Two slices, or the equivalent of crushed or tidbits, is the proper serving. Or eat it in the form of salads and desserts.



Remember, these statements are made about Canned Pineapple, not the raw fruit. Canning processes cause a beneficial change of dietetic importance.

Follow the newest dietetic advice: Start or end one meal a day with Canned Pineapple.

Educational Committee

PINEAPPLE PRODUCERS COOPERATIVE ASSOCIATION, LTD.
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